

Emotional Space: An Approach for Balancing Historic Preservation and New Construction in the Redevelopment of Chinese Culture Museums

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We certify that we have read this Doctorate Project and that, in our opinion, it is satisfactory in scope and quality in fulfillment as a Doctorate Project for the degree of Doctor of Architecture in the School of Architecture, University of Hawai'i at Mānoa.

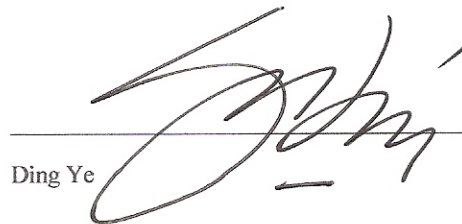
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Abstract

We cannot avoid the confrontation between old and new in the redevelopment of Chinese cultural museums. How to balance the two of them becomes a problem in China. However, the current expansion or renovation of Chinese cultural museums remains far from the goal of balancing old and new. Most approaches have employed western museum design strategies to create a place for Chinese art, which delivers a western spiritual and emotional space that differs from the appropriate space for a Chinese cultural context. This mental disconnection not only causes the result of imbalance, but also obstructs the complete access to Chinese art. Therefore, this study focuses on the definition of the Chinese spatial conceptions both in buildings and gardens, demonstrated by an alternative design proposition for the New Suzhou Art Museum in employing the concept of Emotional Space as the primary design principle. Emotional space allows communication among buildings, the environment, and human beings through people's various senses. Both the old and new parts of museum projects require making the architecture speak to the public. The employment of emotional space becomes an approach to establish the basic design elements for the incorporation of the old and new. This common ground, emotional space, not only provides a possible solution to solve current confrontations, but also points out an approach to ensure cultural museums tell their own stories.

Introduction

Goals and Objectives

The old and the new are still in a hostile relationship in the renovation of historical Chinese cities. The term “old” here refers to valuable but unregistered sites and structures and “new” is defined as new construction activities.

The redevelopment of museum projects in Chinese cities usually occurs in historic districts that contain a large number of valuable but unregistered buildings. The confrontation between old and new can easily be observed in these projects. Some scholars and architectural designers already acknowledge the necessity to balance both the old and the new in the redevelopment process. Unregistered structures are in the disadvantageous position of being disregarded by local government and higher authorities due to problems of current Chinese preservation legislation. Chinese legislation pertaining to historic preservation is not fully developed and cannot resolve the contradiction between the preservation of the old and the development of the new. Thus, alternative design methods should be applied in this situation to provide solutions to balance the preservation work and redevelopment work.

Some common design methods for redevelopment projects involving old structures and buildings are as follows:

1. Heritage sites and buildings. The Chinese legislation of historic preservation and conservation work will ensure the protection of registered heritage sites and buildings. Historical structures on redevelopment project sites usually will be conserved on site. If there is no preservation possibility onsite, the heritage buildings will be relocated to a new site for conservation work.
2. Non-heritage but historical buildings. The Chinese legislation of historic preservation

and design practices lacks solutions to maintain non-heritage but historical buildings. When new construction dominates the project site, historical structures are either moved from the site or deconstructed. The original historic remains and memories will soon be replaced with new architecture with created symbols and features of traditional Chinese architecture, when the real symbols are destroyed.

Non-heritage but historical buildings in redevelopment projects are usually devalued due to the current attitudes and treatments of them. However, these buildings are also an important component to produce taste and quality for a city. They present the local history, culture and community life. Deng Xiaoping once said: “It doesn’t matter if a cat is black or white, so long as it can catch mice.”¹ This famous saying can further extend its meaning and be applied in current redevelopment conditions. The capability of catching mice is the standard/requirement for all cats to be judged whether it is a good cat or not. So what about architecture? What is the standard to judge good architecture?

Good architecture should convey varied senses and emotions to an audience: happiness, sadness, power, holiness, warmth, intimacy, quietness, and so on. All parts of architecture can create an effective interaction between people, nature and physical surroundings. Both the old and the new also have the ability to serve this goal of good architecture. Emotional space provides one truly spatial experience. Based on this common ground, the old and the new can be regarded as two partners in creating a qualified architectural space.

Chinese cultural museums are a good starting point for exploring the feasibility and effects of the emotional space. Most cultural museums are on historical sites. They provide space for families and their friends to enjoy various art and social activities. However, the limited space, outdated exhibition facilities and bold museum programs urge these cultural museums to obtain more space for the continual development. New demands require designers

¹Translation from <<http://www.proz.com/kudoz/1708418>>

to offer museums with new functions, materials, and technology. Moreover, cultural museums themselves take significant roles in protecting, exhibiting, and popularizing national and local cultural values. Therefore, the transformation and expansion of cultural museums involves the need to protect traditional values.

This study explores possible design approaches and solutions for preserving valuable but unregistered historical structures during the redevelopment process. My goals are to employ the design solutions to fill the gap caused by the Chinese legislation and to balance preservation and new construction in historic city redevelopment. The purpose here is not only to focus on the preservation of the old, but also look for a practical approach to incorporate the old in the contemporary life.

The following topics are researched and discussed in the thesis: 1. The roles and notion of emotional space; 2. Emotional elements in Chinese space; 3. Design qualities of emotional space; 4. Chinese legislation of historic preservation; 5. The relationship between emotional space and historic preservation; 6. History of museum architecture, followed by 7. Case studies across the world in order to provide general information on museum design.

The coexistence between the old and the new can be reached by introducing and creating emotional space in Chinese museum architecture. Therefore, the objective of this study focuses on the employment of different design elements to form emotional space for Chinese cultural museums, demonstrated in an alternative design proposition for the New Suzhou Art Museum.

Strategies and Approaches

The research first states the importance of emotional space in regards to architecture and answers what emotional space is.

Then, the research reviews Chinese traditional thoughts and cultural values that conduct the importance of emotional space in Chinese art environments. Moreover, by defining emotional elements in traditional Chinese architecture, the research shows how Chinese physical environments present such an invisible but spiritual quality. Based on the study of several museums, the research sums up three qualities of emotional space in design work and develops emotional space-based design strategies.

Furthermore, the thesis studies the significant roles of emotional space in historic preservation work and investigates the history of Chinese museum architecture so that they provide a background for museum redesign work.

Finally, by applying summarized qualities and strategies in the redesign of New Suzhou Art Museum in China, the research illustrates the creation of a living Chinese cultural museum structured in the past, the present, and the future.

Foreword

My intension for this study comes from some thoughts on the current Chinese architecture design industry. Some domestic architects try to search for and establish their own standard of contemporary Chinese architecture. They concentrate on how to develop contemporary architecture based on Chinese traditional architecture. They connect their conceptions and design methods with traditional materials, traditional layout, *Fengshui*, and classic scholastic writings. Chinese architects have intended to use traditional spaces and cultural ideas and have claimed revival work to the Chinese traditions while they have ignored lots of old buildings in historical cities.

Therefore, the news that the New Suzhou Art Museum had been designed and built dramatically affected me, because the onsite unregistered but valuable old buildings got ignored. This museum is to preserve local art, historical, and cultural works, and to continue local traditions. To achieve this purpose, Architect I. M. Pei was invited to master the design work. At the same time, the relocation and deconstruction of onsite existing buildings was on-going during this process. These two contradictory activities intrigued me and awakened my thoughts on whether the design work could possibly maintain historical buildings in their original places.

Pei's design provides me a direction on what the New Suzhou Culture Museum could be. Moreover, it expands my thoughts on how to use this small but sensitive location more effectively with the clear and careful arrangement of different functional spaces and varied routes for museum users. Moreover, Pei's design presents how he pays attention to traditional Chinese cultural and architectural aspects, as well as the relationship and the connection with the neighborhood. However, I felt there was something missing in Pei's design space. He did an excellent job in presenting all classical Chinese architectural elements in the new museum, but unlike the feelings I gained from visiting its two neighbors,

the Humble Administration Garden and the old Suzhou Museum, I could not perceive the soul and emotions of the designed environments.

Therefore, my redesign work focuses on employing the emotional design method to ensure the newly constructed parts interact with historical buildings as well as with surrounding physical environments and local life. Little work has been done with structural and functional issues in the design. Compared to the Nan Shi Pi Ji garden residence, the design work also lacks consideration of how to incorporate art and antique pieces into the physical elements.

There would be more approaches to creating new structures in historical areas if onsite historical buildings did not exist. The design work either can combine with local cultural elements to influence local people's lives, thoughts and actions; I will also not completely go against designers who wish to apply innovative architectural concepts to influence local people's lives, thoughts and actions. For example, Peter Cook's Graz Art Museum in Graz, Austria, in which one can observe the developing trend for the old residential district; Jean Nouvel's Quai Branly Museum in Paris, France, which informs one the harmonization between ecological systems and industry in the future.

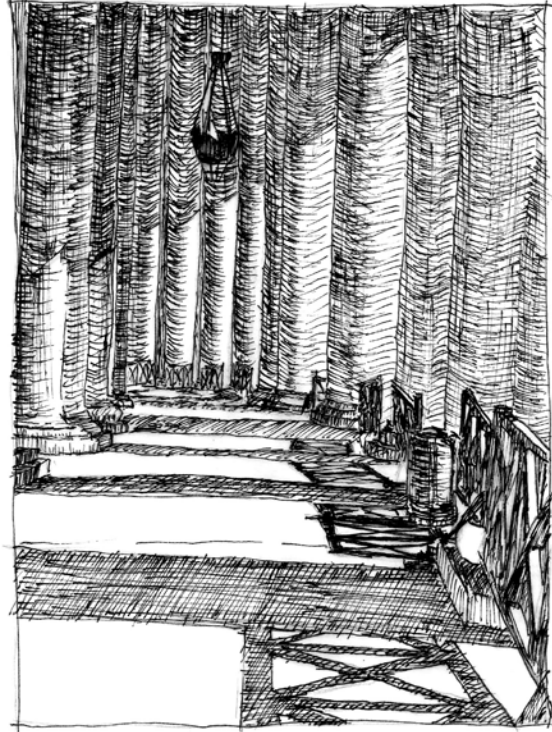
Hence, I would like to expect that Pei's New Suzhou Art Museum could relate itself with living Chinese traditions and local lives instead of the traditional architectural forms, if its space provides more approaches to allow dialogs and interactivities among buildings, art pieces and visitors, or if Mr. Pei could regard the entire Suzhou city as the Louvre Museum.

Chapter 1 the Importance of Emotional Space in Architecture

The Importance of Emotional Space in Architecture

Architecture is indeed a living language.¹

Although it seems that buildings are initially viewed as fixed and silent objects, architecture serves ultimately the same function through its own words. In the art of creation, the architect has embodied his or her own grasp and blending of the vocabulary to various degrees of fluency creating for the astute observer a story to be read, explored and ultimately be absorbed. For example, the enclosed forecourt of The Piazza of St. Peter in Rome by Bernini captured the sentiment of processional reverence. Its curved regiments



Columns of the Piazza of St. Peter, Rome, Italy

of massive columns stand four deep, forming a deeply expressive colonnade mixing Tuscan, Doric and Ionic orders. One could imagine walking through this forest of columns where sparkled sunlight falls, and the air between the columns is layered with spiritual intensity.

Imagination is the reversal of the extension of the language of architecture into a verbal vocabulary. In the most simplistic terms, we might ask ourselves, “If I were a Corinthian column, what story would I tell?” If I were a pergola, what would the wind whisper about in its journey through my bones? Architecture inspires action; space inspires stories and

¹ “The Symbolic Language of Architecture and Public Monuments.” Yale-New Haven Teachers Institute. 1993 Volume I. <<http://www.yale.edu/ynhti/curriculum/units/1993/1/>>

memories.²

I remember a place from my childhood, my great grandmother's old house. When I was a child, I spent a lot of time there every summer. I cannot remember a time in my life when I felt more loved or appreciated than when my great grandmother dressed and made up in front of her favorite dressing table. She and my grandparents lived in a traditional post and beam townhouse in Suzhou County. It had four courtyards each connecting to separate rooms, the kitchen, the bedrooms and the hall. I still remember the rainy season in summer, my favorite time since I liked to sit along the entrance between my great grandmother's bedroom and the courtyard, watching and listening rain drops play with the roof, the eaves, the paved ground, the stairs, and the grass. At the same time, the wooden floor and furniture both emitted a heavy odor that was generated by the age of the house. Especially when my great grandmother dressed herself up in the traditional style of a Chinese lady, it brought me into the time of how Chinese ladies spent their free time in pre-modern society. Years later, my great grandmother's family moved to a modern apartment and these memories only can be caught in my dreams. I agree with Cesar Pelli that "...Buildings should be an important carrier of collective memories."³ He thought emotional space would allow the building to hold the memory. Now, I have come to realize that these emotional associations are the actual space of my experience of home. A house is a material object and a home is of the heart.

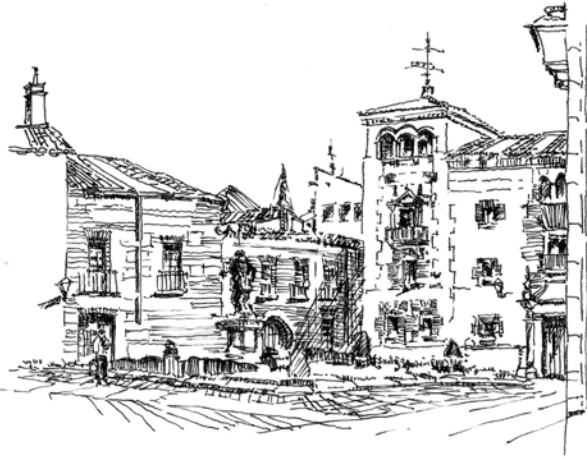
Therefore, the question of what it is that makes architecture expressive is similar to the question of what makes a house a home. Do bricks and boards create a room that is comfortable and inviting? Is relaxation a result of finding the right paint color? Does that feeling of being safe and protected come from the choice of wall covering or is it a result of the finish hardware? These may be very simple questions, but they are critical to designers to

² Alexander, Christopher. *The Timeless Way of Building*. USA: Oxford University Press, 1979.

³ Gilyard, Burl. *Speaking Volumes* March 2006 <http://www.presentations.com/presentations/delivery/article_display.jsp?vnu_content_id=1472019>

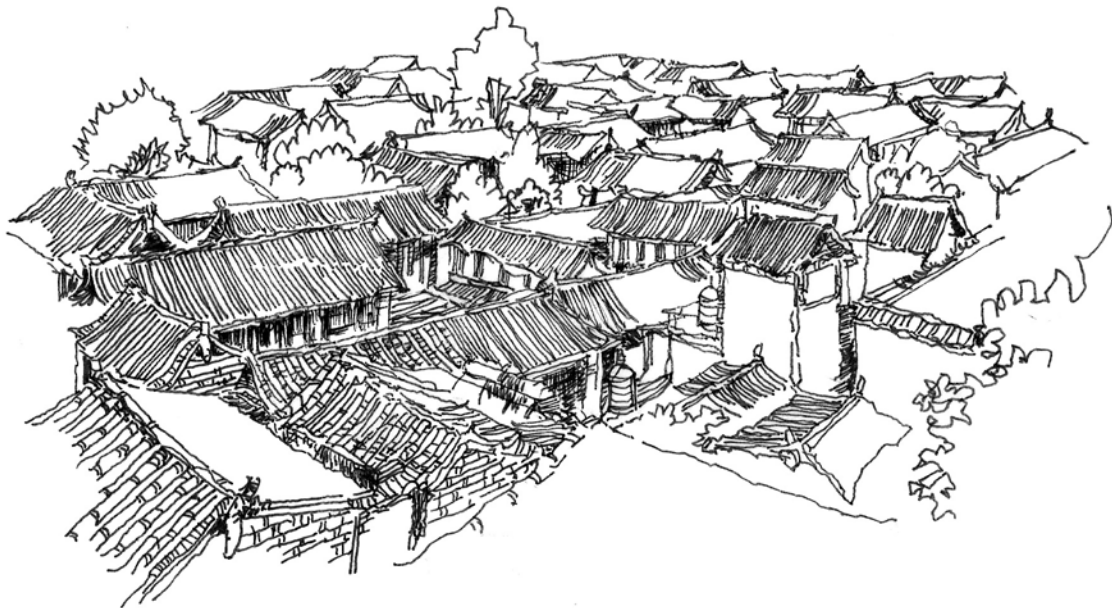
make a building feel humanized.

In *The Timeless Way of Building*, Christopher Alexander wrote that the specific patterns out of which a building or a town is made may be alive or dead. To the extent they are alive, they let our inner forces loose, and set us free; but when they are dead they keep us locked in inner conflict.⁴ Alexander's theory states



A Little Courtyard, Madrid, Spain

that architecture gains liveliness by reflecting the patterns of behavior of those who inhabit and use it. In other words, the day-to-day repetitive actions, events and activities of human beings naturally organize space in a way that is healing and nurturing. When those patterns are ignored, he suggests, we have the type of architecture that now fills our cities...dead, mechanical boxes, impersonal and cold. Therefore, it is possible, as Alexander believes, to bring humanity to architecture. If this is true, the unconscious world of emotion that lives



View of Lijiang City, Lijiang, China

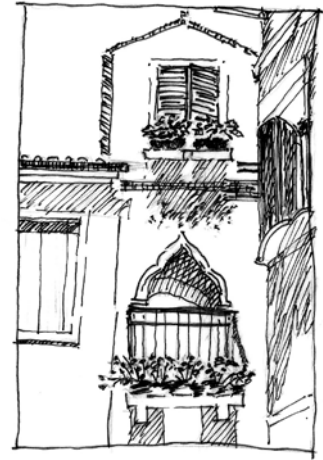
⁴ Alexander, Christopher. *The Timeless Way of Building*. USA: Oxford University Press, 1979.

within human beings must be the primary source for many design criteria.⁵

Hence, the intrinsic emotional significance of space values history and human beings' memories. This is easily perceived in lots of historical cities, such as Madrid in Spain, Venice in Italy, and Lijiang in



Street View, Vience, Italy



Building Facade, Vience, Italy

China. In an interview, Hollein states, "Life without history would be unthinkable and, for me, architecture without history would be no less unthinkable."⁶ No matter how humble or sophisticated the construction, no matter how basic or complex the strategy, those concepts are embedded in the act of building.

Emotional space contributes to the quality of great architecture. Roman architect Vitruvius said that a building should have utility, durability, and beauty.⁷ Great architecture, in addition to providing shelter and infrastructure, must have the power to move us emotionally, to comfort, to disquiet, to make us think, to surprise us, to hold our attention, to allow us to inhabit it, and to inhabit us. They are forever in our hearts. Sometimes it is enough just to make us feel at home in it. A building can also tell us something, narrate a story (a monument), or express a philosophy. Some architecture works make us laugh, like a Long Island diner shaped like a duck. Some delicate structures implore us to protect them. Others lift us with a sense of awe and sacred ecstasy, like the immense stone piers and cables of the

⁵ Alexander, Christopher. *The Timeless Way of Building*. USA: Oxford University Press, 1979.

⁶ Hollein, Hans. *Metaphors et Metamorphoses*. Paris: Centre Georges Pompidou, Centre de Crition Industrielle, 1987. n.p

⁷ Young, Alan. "Sustainability Challenges Architects' Creativity." *Real Estate Weekly*, 12/19/2007.

Brooklyn Bridge.

There is no doubt about it that buildings affect our lives and the physical environment in which people live lasts for centuries and centuries. The only test for physical environments is whether they can pass the examination of time. These retained old structures and buildings gradually become the tradition and culture of a city because time gives them a soul--emotional space—so that they can communicate and move people.⁸ Old but valuable buildings and places really touch people's hearts, because they all share the same quality of timelessness, which gives everyone the power to create a deep and direct emotional experience for themselves. However, many contemporary buildings, on the contrary, dissociate themselves from such an emotional world. They over-focus on creating a rational relation between a human being and the built environment that is totally lacking in emotion. Emotional space becomes the key to evaluating what is great architecture.

Importance of Emotional Space to Chinese Museum Architecture

Emotions are very important to our lives. Taking emotions away from most stories will make them boring and unbelievable. Everyone knows that the characters in most stories sometimes do not make the most reasonable decisions, and many times their behavior is strongly influenced by their emotional states. Museums can be read as a space for storytelling. The employment of emotional elements in architectural space can help deliver the believable virtual stories.

The current Chinese museums present challenges due to the growing needs for visitor orientation, programming, storage, and staff offices. New buildings will allow museums to relocate visitor amenities and high-impact services, like shops and restaurants, away from the historic building, as well as provide more exhibition and interactive spaces. In

⁸ Alexander, Christopher. The Timeless Way of Building. USA: Oxford University Press, 1979.

particular, a cultural and art museum should create a poetic space, preserving an intimacy with artifacts that is core to visitors' experience. The most important approach is to make buildings evoke strong emotions—awe, inspiration, a oneness with light. Audiences can respond and react to environments with a high sensibility.

Emotions are the soul to Chinese cultural museums. The Chinese cultural and art exhibition always aims to stimulate reflection on what is common and what is distinct in the expression of emotion among people and their societies. As they travel through a multiformat, multimedia exhibition, members of the audience are invited to begin their own exploration of the body language(s) of emotion. Such a museum exhibition will open the eyes, hearts and minds of the audience to the very physical expression of emotion; varieties of dialects among contexts, cultures, species, and life spans; and issues of its legibility and comprehensibility as a central means of communication.

After recognizing the importance of emotional space to architecture, it is necessary to investigate the answer to what emotional space is and which element composes emotional space in Chinese architecture.

Chapter 2 the Notion of Emotional Space

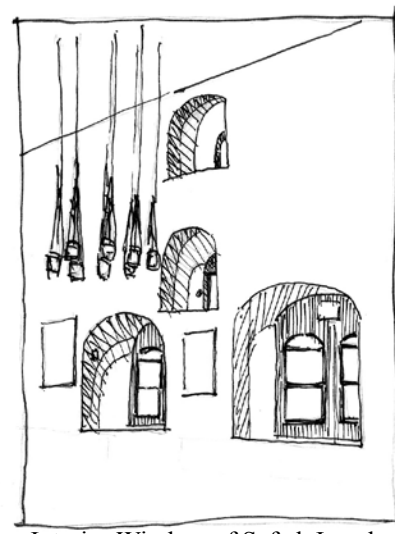
Space

Space is a three-dimensional extension.¹ It can be physical; it can also be metaphorical. But what is space? It is necessary to be aware of the definition of space. Nikolaus Pevsner in his book, *An Outline of European Architecture*, tells us: “What distinguishes architecture from painting and sculpture is its spatial quality. In this, and only in this, no other artist can emulate the architect. Thus the history of architecture is primarily the history of man shaping space...”² Space shares the same importance as the visual expression of architecture, because the central goal of architecture is to create buildings that provide space for inner and outer experiences in harmonious coexistence with nature.



River Bank, Tongli, China

There was a period when architectural theory was concerned with the enclosure of space rather than the space created. Architecture could enter. Architecture, however, does not consist of the height of those structural elements that enclose space. Space is where man lives and moves. “The art of architecture is not one in which we walk and which the activity of architecture is a collection of surfaces, but an assemblage of parts, with one another in a certain fashion, and constitute



Interior Window of Safad, Israel,
Yosef Karo Synagogue

¹ I think space refers to more than internal space. It includes both the exterior and interior of architecture. There is no distinction between them. In my thinking they are one and the same. One cannot be changed without affecting the other.

² Pevsner, Nikolaus. *An Outline of European Architecture*. Penguin, 1943: 35

an internal volume and an external mass.”³ A building itself may still turn out to be of poor architecture, though its plan may have abstract beauty on paper. The four facades may well-balanced and the total volume well-proportioned.

Based on the above discussion, space cannot be completely represented in any form, but can only be grasped and felt through direct spatial experience, which endows the quality of space. This quality is the focus of this thesis: emotional space. Without this, the meaning that is specific to space will no longer exist, and concepts of rhythm, scale, balance, and mass will become vague. Furthermore, Chinese literati and artists are highly aware of the experience of a place in their creation and appreciation process. The study of emotional space can make a better understanding of the spatial formation in Chinese architecture. Emotional space goes beyond just the physical performance of functional architecture. It is found in the historic structures in China. This thesis shows the importance of that space and how to incorporate it into cultural museums.

The Perception of Architectural Space

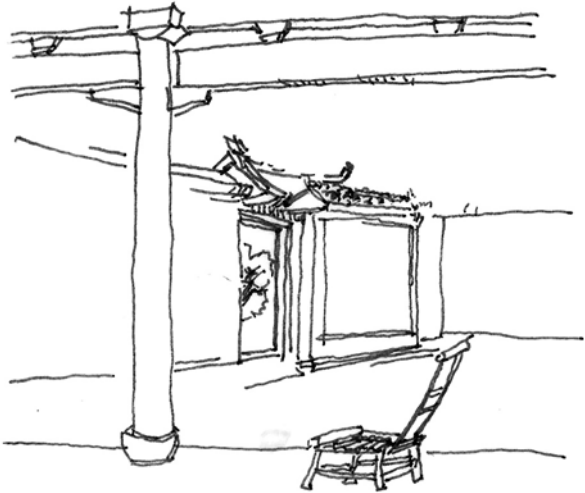
Architectural space is modulated and defined by the elements surrounding and within it. Gottfried Semper, a German architectural historian, and possibly the first theoretician to address the question of architecture as space, said, “The wall, partition or screen is that architectural element that formally represents and makes visible the enclosed space as such, absolutely, as it were, without reference to secondary concepts.”⁴

These modulating elements need neither be complete nor be opaque. Thus, a pierced screen or a row of columns will define a space. Space is also delineated by lowering a ceiling over an area or by changing its floor level with respect to its surroundings. When an isolated

³ Rader, Melvin. *Art and Human Values*. Prentice Hall, 1976: 20

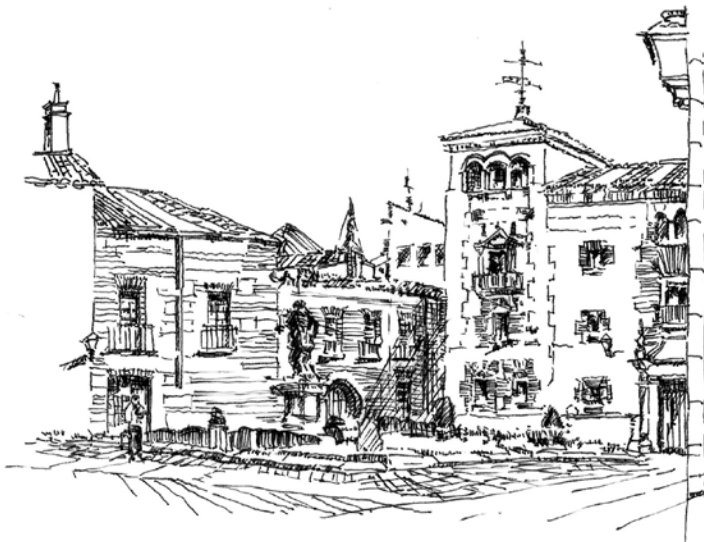
⁴ Semper, Gottfried. *The Four Elements of Architecture and Other Writings*. Cambridge [England]; New York, NY, USA : Cambridge University Press, 1989.

wall occurs, space seems to flow around it and a sense of anticipation is set up about the hidden part of the space. Space formed by walls that do not meet, although still providing a sense of enclosure, will be qualitatively different from one with entirely enclosing walls. Similarly, if a ceiling appears to float above the walls, a different type of spatial experience is achieved.

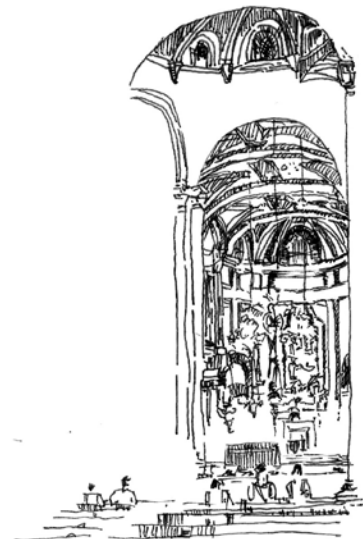


A Courtyard, Beijing, China

Besides layout or depth perception, textures also play a significant role in understanding architectural space. Textural effects are not restricted to just the surface of materials, but also the effects that arise at various scales. Thus, in a Gothic cathedral, it is not only the quality of the stone that gives texture, but also, on a different scale, the repetitive nature of the tracery and decorations.



Little Courtyard Madrid Spain



Se Catedral Lisboa

The above discussions mostly focus on the physical perception of space, which mainly

represents the Western views of architectural space. However, the Chinese vision of architectural space is beyond the physical perception.

Chinese Spatial Concept

The Chinese notion of space should be understood in the context of Chinese culture. Compared to the West's commonsense understanding of space as a science, which is more physical and objective,⁵ space in Chinese culture is more transcendental and subjective. To Chinese, the word 'space' always relates to the word 'time.' 'Yuzhou' is such a term defining the concept of space and time. Yu refers to infinite space ('here', 'there') and *zhou* means permanent time ('then', 'now'). In Chinese architecture, *yu* is the meaning of roof while *zhou* represents the structure.⁶ Both *yu* and *zhou* contribute to the integrity of the space.

The Chinese conception of space and time is visible and traceable. Because space and time are transcendental and subjective, the forms of space and time are shaped by human beings' thinking and experiences. Thus, humans' various cultural modes of thinking and behaving build the form of those forms of space and time. Chun-chieh Huang and Erik Zurcher, in *Time and Space in Chinese Culture*, point out that "the attitude itself is spaced-timed, and the lived space and time are shaped in a particular manner by a particular cultural attitude."

⁷ An understanding of Chinese philosophy, history, literature, and art all contribute to the Chinese comprehension of space and time. In certain ways, the Chinese literati's thoughts and activities in private gardens present a whole image of Chinese philosophy, history, literature and art. Hence, the literati's world in garden space illustrates the Chinese concept of space and time.

⁵ Western space also contains subjective content rather than the science conception. For instance, some Western philosophers thought space and time as elements of a systematic framework which humans use to structure their experience.

⁶ In *Huan Nan Zi-Lan Ming Xun*, Gao You noted, "Yu means roof; zhou is structure."

⁷ Huang, Chun-Chien, and Erik Zurcher. *Time and Space in Chinese Culture*. E. J. Brill: Leiden. New York. Koln, 1995: 5

The Chinese literati's vision of space and time in garden design is more than the physical environment because of the transcendental and subjective features of Chinese space. They use all sensible objects to dwell themselves in other places and times, "spatially through imagination, time-wise through memory."⁸ Although the private gardens designed by Chinese literati are actually spatially limited and are man-made, one can perceive a real infinite space. Therefore, the transcendental and subjective features make emotional space a significant position in Chinese architectural space. One's emotional and spiritual reflections on the physical environment naturally pervade one's memory and imagination. Through memories and imaginations, one's world can go beyond the specific location and situation and reach one's own time and space. Moreover, one can participate in the transformation of the present through the past, as well as participate in others' experiences.⁹

The Notion of Emotional Space

Le Corbusier declares that "the business of architecture is to establish emotional relationships by means of raw materials."¹⁰ His definition of architecture articulates the significant role of emotional space in humans' living environments. Emotional space ensures buildings have a timeless quality, as well as lives the buildings. Frank Lloyd Wright called this quality "the ones which



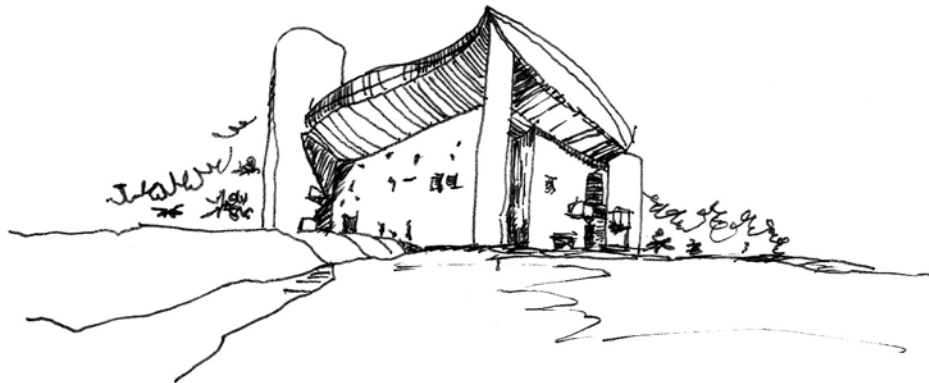
Yuanmingyuan Beijing China

⁸ Huang, Chun-Chien, and Erik Zurcher. *Time and Space in Chinese Culture*. E. J. Brill: Leiden. New York. Koln, 1995: 27

⁹ Huang, Chun-Chien, and Erik Zurcher. *Time and Space in Chinese Culture*. E. J. Brill: Leiden. New York. Koln, 1995: 25-30

¹⁰ The Villa Savoye, 1929, a graphical user interface to the "living machine"? (Le Corbusier, *Mein Werk*.)

take you beyond words.”¹¹ Quoted by Stephen Grabow, Christopher Alexander said, “The buildings that have spiritual value are a diagram of the inner universe, or the picture of the inner soul.” And in *The Timeless Way of Building*, Alexander writes, “There is one timeless way of building. It is thousands of years old, and the same today as it has always been. The great traditional buildings of the past, the villages and tents and temples in which man feels at home, have always been made by people who were very close to the center of this way. And as you will see, this way will lead anyone who looks for it to buildings which are themselves as ancient in their form as the trees and hills, and as our faces are.”¹² Alexander’s basic assumption was that behind this kind of quality, which he calls “the quality without a name,” lie universal and external elements common to us as human beings.¹³ The



The Chapel at Ronchamp, France

Dalai Lama calls this quality: “the great self, the suchness or the nature of reality... The state of mind which brings us close to that quality is state of knowledge and awareness detached from extraneous factors as the mere clarity of the mind”.¹⁴

Then we need to examine the meaning of the word ‘emotion.’ There exist many terms of

¹¹ Grabow, Stephen. *Christopher Alexander: The Evolution of a New Paradigm in Architecture*. London: Routledge Kegan Paul, 1983.

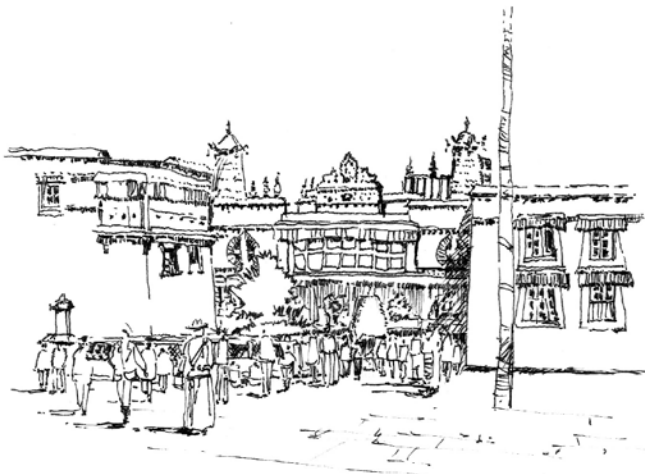
¹² Alexander, Christopher. *The Timeless Way of Building*. USA: Oxford University Press, 1979

¹³ Alexander, Christopher. *The Timeless Way of Building*. USA: Oxford University Press, 1979

¹⁴ Lama, Dalai. (Trans. By Glenn Mullin) *Training The Mind In The Great Way*. Snow Lion Publications, 1997, 2nd Rei edition.

‘emotion,’ sprinkled throughout the dictionary and connected by connotations both obscure and revealing. Such terms include: emotion, passion, fervor, ardor, enthusiasm, zeal, mood, humor, temper, vein, disposition, feeling, affection, sentiment, affect, and so on. All of them give meanings to living emotional experiences. The Wiki website further states that “emotion, in its most general definition, is a neutral impulse that moves an organism to action. Emotion is differentiated from feeling, in that, as noted, emotion is a psycho-physiological state that moves an organism to action.”¹⁵ Therefore, the word ‘emotion’ begins in the experience of being moved in some manner.

There are two planes on which an individual exists in a physical environment. One is



Da Zhao Temple Lhasa China



River and Street Tongli China

where one exists physically. The other is where one feels that one exists, which is formed and affected by elements such as emotions, feelings, thoughts, and experiences. Elements of the latter one are possessed by the individual observer and are naturally related to the process of perception. This emotional language is a very unique factor within human beings, which separates them from animals and other species.

This quality can also be observed from the ancient Indian theory, the Theory of Rasa Shastra, which is a very profound synthesis of human

¹⁵ “Emotion.” [Wikipedia](http://en.wikipedia.org/wiki/Emotion) 04 April. 2009 <<http://en.wikipedia.org/wiki/Emotion>>

emotions. The main point of Rasa Shastra is that one can communicate with the artwork if he makes himself human, even regardless of any formal knowledge about the work.¹⁶ The prerequisite to this theory is to be human. Physical environments play an important role in making one feel human.

Emotion plays a significant role in generating experience in the social and cultural lives of all human beings. Emotion is a vital aspect of aesthetics. We are drawn to aesthetics again and again because it carries affective impact. Emotional responses are not merely related to more important and intricate thoughts. Affective experiences relate with various specific moments of their articulation, such as a significant historical event in a palace, or a sacrifice in a shrine.

Emotions live in humans' living environments, telling memories and stories of our past, present and future. They are experienced and recalled in time and space. In other words, emotions are recorded in the changing physical environment. In particular, they are inherently narrative in traditional existing environments. These narratives generate a variety of affective responses in audiences. Assessing the emotional response of an audience is one way among many of discerning the embedded structures in these narratives.



Longdang Lahasa

Thus the physical environment needs to embed these artificial emotions, because emotions

¹⁶ Gouresan, Vidhya Gnana. "The Rasa From Within Aesthetic Awakening I." *Singapore Art Gallery Guide*. May 2006 <http://www.sagg.com.sg/scripte/past_may06.html> It is said that "Utsaha, or emotive energy plays a key role in the experience of Rasa. Energy is inherent in the work of art, as much as it is in the viewer. The viewer has to be able to exude his/her own utsaha; a sensitive involvement, towards a work of art. When this communication is successful, the Rasa experience is born. And the Rasa experience of every individual viewer is different."

allow achieving functionalities to rich the life of human beings, intimately connecting our inner souls with the exterior world. This provides a more effective, stimulating, and natural interaction between humans and their physical environments. An emotional agent also possesses information and reactive capabilities and interacts with the external world.

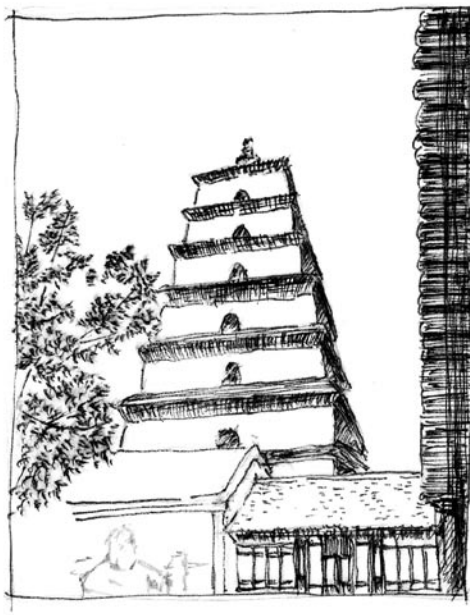


Parthenon Athens Greece

Although such timeless qualities exist in buildings rooted in different cultures and traditions, the experience they generate is common to all people, no matter who they are. Ancient buildings, such as the Great Pyramids, the Parthenon, the Gothic cathedrals, and the Forbidden City, have such a secret quality incorporated into their designs by their architects. This quality contributes to the abstract manifestation of the buildings themselves. It can be described as the ‘feelings’ evoked by architecture. The ancient design gave architecture the



Street View Madrid Spain

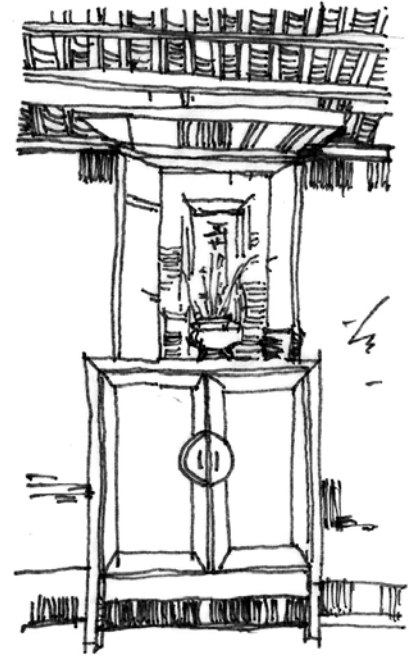


Great Wild Goose Pagoda Xi'an China

ability to unify physical and emotional experiences. This is assisted by the fact that buildings have an inside and an outside which is a reflection of the inner and outer worlds we exist. Architecture provides a means of

harmonizing these physical and spiritual aspects of life.

All emotional spaces share a common pattern of events. Although they are different in form, they all create the same emotional experience, giving people imagination. This is also due to the touchable quality of emotional space, which allows places to be familiar to everyone. People can experience the comfort of familiarity through this quality of the built environment, even though they never seen them before. This pattern also ensures buildings function as identification tools, allowing people to orientate themselves in the varied physical world.

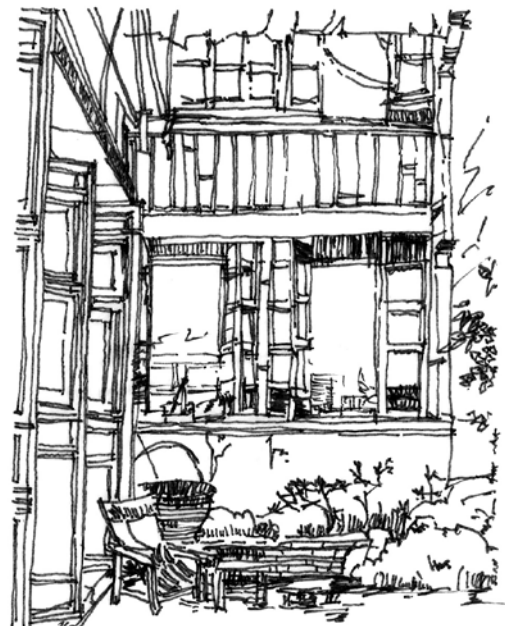


Interior Furniture of a Chinese Resident House

In daily life, we are surrounded by emotional spaces. For instance, the living streets in Chinese villages and towns with traditional wooden structural houses displaying with local



Street view Zhouzhuang Suzhou



courtyard of a Chinese resident house

goods and stone pavements on roads. The residential courtyards are full of local furniture and utilities. Space provides a place for us to work, study, entertain and be entertained, and to shop. Most of our activities are emotional behaviors in direct response to the physical environment. In other words, space of the built environment generates emotional associations with people's activities. For instance, the cinema is a kind of space where people relax while they enjoy a movie. Memorials, home museums, and mausoleums naturally direct and control their audiences' feelings and thoughts. One of the most charming characteristics of emotional space is that it forms a special time-space connection to allow people to immerse themselves in their memories. Hence, architectural space becomes more livable and touchable because of the emotional quality.

The Need of Emotion-driven Design Approach in Suzhou, China

Like other historical cities in the world, Suzhou is engulfed in a period of dramatic changes. The recent economic resurgence has brought exciting opportunities for regeneration and a renewed city. But it has also brought the possibility of unintentionally losing the very things that make Suzhou so special. Many people outside of Suzhou are familiar with a number of the city's iconic structures: the pagodas of Hu Qiu, Bei Si, Rui Guang; and the gardens of the Humble Administrator, and the Master of Nets. These sites provide merely a foretaste of the city's historical and architectural wealth. For while many provincial cities in China have had radical clearance and redevelopment programs in the last fifteen years, Suzhou still retains a significant proportion of its built fabric constructed during the past 2,500 years.

However, contemporary Suzhou has been under threats to the physical and cultural environment. Within the central historic city, there is considerable development pressure.

This brings with it not only the potential loss of individual traditional buildings, but also substantial alterations to the character of some of the most outstanding areas of traditional townscape. New construction is impelled by economic and political motivation. The economic imperative remains low in some areas and the historic environment is showing the results of decades of under-investment with several prominent buildings demolished as dangerous structures.

Currently, it seems that the real challenge of Chinese architectural practice is to find out how to make the best use of the potential inherent in the modern era we live in to fulfill the timeless needs of creating a friendly and humanistic environment. The basic argument presented here is that in order to create places and buildings that people really feel a part of, are spiritually connected to, and want to live in; there needs to be a different approach to design.

Other Issues Relating to Emotional Space Design

Emotions support the high quality of public places (including the museums). Albert Mehrabian, in his book *Public Places and Private Spaces*, shows how to rate environments in his environmental psychology study. Its main message is that our feelings, thoughts, experiences, and ultimately our behavior in a situation depend not only on what we plan to do, but also on the physical environment in which we do it.¹⁷

In our consumer society, more and more interior designs of public space are constructed in accordance with the emotions involved to serve people's need for sharing their relationships. The designs of tea houses, cafeterias, and bars are good examples of this phenomenon. So can there be objects that allow emotional dialogue to take place between friends,

¹⁷ Mehrabian, Albert. *Public Places and Private Spaces*. New York: Basic Books, previously published in *New York Affairs*, Winter 1977.

lovers, family members, or even opponents? How can designers enrich the emotional content of these public spaces? How can emotion-driven design contribute to other facets of symbolic exchange such as rituals, practices of worship, sacrifice, superstition, fortune-telling, lucky objects, etc.?

Emotions presented by spaces also affect how much experience one can achieve. The concept of experience, where the subject and object meet and merge with one another, is a key issue in designing emotionally meaningful architecture. This is because experience is a space in which all faculties, especially emotions, are activated. In contrast to the kinds of consciousness employed in reasoning and instrumental manipulation, the consciousness involved in experience is the liveliest kind, as it includes feelings as well as thoughts, so we need to explore the relation between emotions and the notion of experience.

Play is an internally motivated activity that all humans engage in from time to time. Integrating the playful element into public spatial design can enrich spaces' experiential values and make them more engaging. Hence, we need to look for contributions that evaluate and discuss concrete examples that address the role of the play element in design.

Besides the above issues, emotions are usually evoked by historical context in architecture. Although design and emotion have developed as a distinct discourse in the last decade, is it fair to assume that it is an unprecedented concern in design? Is it possible to trace the genealogy of emotion-driven design in the history of the design of Chinese museums? Are there past examples, movements, etc. that can be revisited to provide insight into the contemporary discourse of design and emotion? Therefore, we also need to look for contributions that address design and emotion within historical contexts.

Chapter 3 Thoughts and Culture in Chinese Gardens

Emotional space in China is rooted in Chinese thoughts¹ (religions) and culture, which contributes to the distinctive spatial experience and make the Chinese physical environment livable, attractive and accessible.

Chinese Thoughts

China has three great schools of thought: Confucianism, Daoism, and Buddhism. Confucian thought was the oldest, followed by Daoist thought. Both of them shaped Buddhism that entered China from India. All three thoughts have made contributions to Chinese spatial conceptions, especially to the space of Chinese scholar garden.

Confucius ensures the continuity of civilization and culture in China. Confucius opened to everyone the ability to read and write and became the literati. These literati used their learned skills and abilities in governing China and they were the most influential group in traditional China. This group was constantly refreshed by new recruits and the rank of governor could not be inherited. Thus, this system provided China an amazing continuity, even during times of barbarian invasion or dynastic collapses, which is different from the break that, for instance, occurred in Europe after the collapse of the Roman Empire.

Confucius also taught the Chinese how to find recreation in the arts. There is a Chinese idiom, ‘*san yue bu shi rou wei*,’² literally ‘three months do know the taste of meat.’ This phrase describes Confucius’s high appreciation of music. Once, after he heard a segment of Shao music, he forgot the taste of meat for three months. Besides enjoying the music, Confucius believed that all literati’s cultural and art activities, reading, composing poetry, conversing with friends, playing the lute, painting, cultivating flowers, and drinking wine

¹ Chinese thoughts and religions are inextricably related. The study of Chinese thoughts contains some aspects of the religion issue.

² This idiom comes from Lunyu, Shuer.

in the garden space could enrich one's spiritual and psychological world. Moreover, he thought that one's inner goodness and personality would be developed in the right direction through writing and the arts. Thus, garden spaces "have seen glorious days filled with laughter and song, used for opera and sumptuous banquets and people, as honorable guests, artists, poets, calligraphers and men-of-letters thus gratifying the serenity, meditation, quietness of spirit and soul that these Elysian vistas engendered."³

Confucius paid attention to self-cultivation and valued psychological growth. Human cultivation is very similar to a farmer's cultivation of the land. He described his own experience for self-cultivation as: "At fifteen, I set my heart on learning. At thirty, I was firmly established. At forty, I had no more doubts. At fifty, I knew the will of Heaven. At sixty, I was ready to listen to it. At seventy, I could follow my heart's desire without transgressing what was right."⁴ This kind of human world with the Chinese cosmic idea of heaven above and the earth below, make residential places and other architectural elements very natural in terms of Chinese space, especially in a Chinese garden.

Confucius's idea for the literati to enjoy activities and self-cultivation require that the place for the living world should be a very calm space. The active space cannot cultivate one's personality in the Confucian thought and hence requires passive space for contemplation. Although the emperors hunting park prevailed in earlier Chinese history, the Confucianism of the scholars and elites dominated the garden space design. Such a gentle feeling of spaces for daily recreation activities is also influenced by Buddhism, especially Zen Buddhism.

Daoism is a philosophy that relates to one's inner mind and naturalness. While Confucianism guides the human activities in a living environment in which many architectural struc-

³ Nan, Chuan Wah.. The Art of Chinese Gardens. Hong Kong: Hong Kong University Press, 1982.: 1

⁴ Bary, W. De, Wing-tsit Chan and B. Watson, Sources of Chinese Tradition. New York: Columbia University Press, 1960, Vol.1a: 22

tures are used to house different cultural functions, Daoism concentrates on the features of natural elements in a living space. Its philosophy of naturalness provided Confucians an emotional and intellectual escape, because Daoism tends to stress self, seeks blissful ignorance and concentrates more on the mental experience of journeying.⁵ Like Confucius, Daoism's founders, Laozi and Zhuangzi, also saw man as belonging in the world. Confucius worked on finding a way to allow men to interact in harmony, whereas Laozi and Zhuangzi required one to forget human interaction and instead merge oneself with nature, such as water and rocks. Thus, when one enjoys the varied natural elements and lets these elements flourish in the mind, the personality of a man can acquire the running stream or the pliability of the stream or the durability of the rocky mountain. In other words, Confucianism and Daoism provided a balance between society and nature.

Daoism focuses on *zi ran*, the nature/thing that being of itself, *wu wei*, no forced action, and Dao, the way. The two Daoist philosophers accepted the relativity of things, advocated spiritual release, and sought communion with nature. They were very fresh, poetic and playful. Moreover, they wanted to feel their own rhythms in the seasonal changes as well as in the flow of things. Hence, the space for the Daoist should contain those natural elements that represent the cosmos. Thus, it can easily be observed in Chinese garden space that rocks, water, flowers, and trees have the same dominated power as those manmade structures, not just as pretty decorations in space. In a traditional Western house and garden setting, a building has the most important position, while plantings are only ornaments that frame the building.

As opposed to many⁶ Western gardens in which trees and bushes are cut and trimmed into geometrical solids, the Daoists were more interested in the asymmetry of contrasting

⁵ Smith, Richard J. *China's Cultural Heritage The Qing Dynasty, 1644-1912*. Westview Press: Boulder. San Francisco. Oxford, 1994: 150-153

⁶ This is because especially English landscape architecture developed into very organic design, partly because of Chinese influence.

shapes. For example, a zigzag shaped pine trunk may express the force to reach heaven. It also can hint at a dragon that is eager to push its body into the sky to enjoy freedom. Some pieces of furniture in a garden directly use the original body of the trunk. For example, one can find elaborate stands that are to hold a vase or a bonsai arrangement, are made from the entire root. The employment of the crown of the root as a furniture piece makes visitors feel the natural personality of Dao in the garden space.

Daoism gives a sense of unity to the garden space. The opinion of Liu Ling (221-300) expresses this fundamental view. When upset people came to meet him and saw him sitting naked in his room they complained, but Liu said: “I take the whole universe as my house and my own room as my clothing. When then do you enter here into my trousers?”⁷ He had achieved unity with all existing things. Daoism particularly stressed the continuity and integrity of the sensual, material and spiritual worlds, which is called *qi*⁸ [breath].⁹ This *qi* connects one’s inner world with heaven and earth, achieving a sense of unity with the universe. Thus, when one stands in the snow, feeling the cold, and gazes into a cluster of plum flowers, he will feel his heart also become the plum flowers in sympathy with the tree and the snow, vigorous and spontaneous. In this way, one feels and experiences the mysterious world in the garden space.

The insight of one’s vitality comes from closeness to nature develops by practices in garden space. It’s normal to see in a garden or park that Chinese get up to practice *Tai Ji* [*Tai Chi*] exercises (especially *Tai Ji Quan*, a health gymnastics), and then sit quietly to feel the inner world. Thus, the garden space also allows one to watch, to contemplate, to learn from the great elements of nature—rocks, waters, fish, flowers, and trees; at the same time, one can practice a myriad of exercises to absorb their immortal virtue.

⁷ See Fung Yu-lan, *A Short History of Chinese Philosophy*, trans. By D. Bodde, London, 1948: 235

⁸ Qi is fundamental to the Chinese view of life, and particularly to fields of activity such as landscape painting.

⁹ Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin’s Press: New York, 1986: 74

Buddhism is the only Chinese thought that derived from outside of China, in India. Buddhism took over many Daoist expressions to adapt itself to the Chinese language, for instance the word Dao. It also transformed Daoism's attitude towards nature into a symbol of the void.¹⁰ Similarly to Confucian and Daoist thinking, Buddhism also appealed to personal verification. Enlightenment achieved through meditation, *chan* (better known as Japanese Zen), brings one into the Buddha's world. Actually, Buddha is everything and is everywhere. Moreover, the meditation can allow one to feel the *kong*¹¹ [emptiness], a state that is perceivable but inexpressible. There are many elements in Chinese gardens that ensure such a meditation process. For example, the moon shaped gate expresses the meaning of pregnant and emptiness. The lotus, sitting on a quiet corner of a garden, makes one discern the Buddha figure in the meditation pose.

Buddhism introduced the practice of drinking tea into the garden space. Enjoying tea with family or friends is the most popular activity for the literati in the garden. The famous Tang scholar Lu Yu (733-804) in *The Classic of Tea* points "Tea, calms and harmonizes the mind; arouses thought and prevents drowsiness, lightens and refreshes the body, and clears the perceptive faculties."¹² Thus, to Chinese literati, tea helps them calm their inner world and looks for one's body in harmonizing with the environment.

The Aesthetic Tradition in Garden Spaces

Before exploring emotional elements in Chinese garden spaces, it is necessary to perform a brief examination of the Chinese aesthetic tradition. Not only did the above three thoughts help to mold the garden in emotions, but also the aesthetic tradition further shaped the emo-

¹⁰ Bid. 80

¹¹ Edwin T. Morris, in *The Garden of China*, explains: "Emptiness was used in a double way: if one went to things expecting them to be the be-all and end-all of existence, one would be disappointed, but if one had the correct insight, one could find the emptiness meant 'devoid of any limit,' pure, unconditioned bliss in the very beings of the world."

¹² Lu Yu, *The Classic of Tea*

tional space. The gardens embodied the sentiment and the eye of visitors. Wandering in the garden space is just like one step into the atmosphere of a poem or a painting.

Those scholars and philosophers who created gardens for themselves belonged to an elite group in pre-modern China. Most of them were highly cultivated and formally held official degrees earned by passing the civil service examinations. They are also the poets, writers, calligraphers, and painters of the society.¹³ Through the garden, they not only perceived themselves in the rich tradition of aesthetics, but also expressed the values of the spiritual traditions. Literati gained great delight from the resonance created between a particular garden view and a hint to a great moment in aesthetic history. Hints are everywhere in garden spaces to stir one's memories and imagination. These make the Chinese garden space a ground that is full of senses, fantasies, and allusions. Thus, in a garden, a small physical space can be expanded into an infinite emotional space, which provides one's aesthetic taste and experience.

The aesthetic tradition of art believes that the way of appreciation is through experiential understanding rather than arguing. This requires literati to think and read not only with their head but also with their entire "body and mind." This process of experiential understanding relates to one of the key concepts involved in the Chinese aesthetics appreciation tradition: *ti*, which means "to embody." When being a noun, it means the body in terms of its form and substance. However, as a verb or an adjective, it usually conveys the meaning of involving the whole person. More often, it is used in compounds, such as *ticha* [examination], *tiwei* [taste], *tihui* [understanding], *tiyan* [verification]. These compounds illustrate the process of reaching one's inner world through external things. They involve the relationship between "body and mind." Thus, based on the meaning of these compounds, the central idea of *ti* is to concentrate on one's inner being rather than a thorough investigation

¹³ Mote, F.W. "The arts and the "theorizing mode" of the civilization." *Artists and Tradition*. New Jersey, Princeton: Princeton University Press, 1976: 5

of external things.

The Chinese gardens play emotional space upon the literary and artistic tradition. Here, the literary and artistic tradition is like a musical instrument. The musician creates and enjoys wonderful music through the instrument. Nelson Wu, in his book *Chinese and Indian Architecture*, notes: “In...eternally negative space, between reason and untarnished emotion, between the correctness of the straight line and the effortlessness of the curve, between the measurable and the romantic infinity, lies the Chinese garden which is between architecture and landscape painting.”¹⁴ Thus, the design of the spatial movement in a garden would be arranged in a folded landscape painting roll. One would associate the feelings with the memory of something else. A flowered corner may contain several lines of calligraphy that is about poems. The phrases and sentences in poems would flow one’s heart with a wave of impressed emotions. These are the unique and silent language in the Chinese garden, upon which the emotional space is achieved.

Spatial Emotions in Chinese Literature

Chinese space, in particular the space of scholar gardens not only employs physical methods to convey impressions and feelings to visitors, but also embodies ‘*shi qing hua yi*,’ literally ‘poetic sentiments and artistic conceptions.’ This term illustrates that poetry and painting are the two most effective tools to achieve the *qing* [emotions, sentiments, or feelings] and *yi* [ideas and conceptions] on perceiving the Chinese space. This term indicates that the writings directly give a place/structure its own emotions.

The scholar garden is a place for the self-expressions of the literati, who stress the idea of personal expression and emotions in the physical space. They display the ideas and feelings

¹⁴ Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin’s Press: New York, 1986: 198-199

of the physical environment through art activities, such as writing, painting; playing instruments, etc. The literati transfer their mental images and feelings into art works. Writing and painting became the intangible components of the garden composition to give viewers the fullest possible appreciation of the space. Wunsze Sylvia Lee points out that in the literati culture, writings and paintings in conjunction with the layout design and materials used, provide the scholar garden more status and authority.¹⁵ More than this, the literati culture employs history, memories, and imagination in the garden space. Among all literati activities, writing is one of the most powerful tools for Chinese people to express their feelings and emotions regarding their living space. Cary Y Liu believes that writing is a non-structural aspect of Chinese architecture. It is sometimes considered a category of Chinese building.¹⁶ Writings make the Chinese space a sanctuary for the body and the mind.

For centuries, the Chinese have been taught by their sages to seek true pleasure and enjoyment in their living spaces. The living space is an abode of affection, peace, and rest because in it lives one's parents, brothers, sisters, wife, and children. The Chinese love their living spaces. Lots of literati express their feelings by words. The most famous writing about this spatial expression is the poems of Tao Yuanming (365-427), whom Lin Yutang (1895-1976) considers "the most harmonious product of Chinese culture." Tao Yuanming, says Lin Yutang, is "a perfect example of the true lover of life...but has reached a harmony with the life of the senses."¹⁷ Tao Yuanming described his home and living environment in a series of six poems entitled "Back to My Garden Home." These poems tell people how Tao Yuanming spent his time at home. He enjoyed sweet conversation with his kin and dispelled his sorrow with his lute and his books. When spring came, he joined other farmers to work in the fields. Some bright mornings he worked alone, weeding his garden. Sometimes he climbed the Eastern Hill and whistled a tune, or sat beside the limpid stream and penned

¹⁵ More related discussions see Lee, Wunsze. "Status of the Materials Used in Suzhou Gardens in the Late Ming Dynasty." MA Thesis University of Hawaii, 2006: 47

¹⁶ Liu, Cary Y., "Chinese Architectural Aesthetics." China's Houses, Homes, and Families. University of Hawaii Press, Honolulu China Institute in America, New York, 2005

¹⁷ Lin, Yutang. The Importance of Living. New York: Jon Day, 1935: 115-121

a verse. For instance, this poem depicts what he did in his garden:

Daily I wander pleasantly in my garden.
There is a gate, but it is always closed.
I lean on my bamboo cane as I wander about or sit down to rest.
Now and then I raise my head and look at the sky.
The clouds drift from their mountain recesses;
The birds, weary of flying, return to their nests.
Now it is getting dark, and the lovely scene is vanishing;
Still I like to linger beneath the lonely pine.¹⁸

Tao Yuanming was an inventor who truly “discovered” the garden as we know it today.
He gave a passionate expression to his feeling for natural environment in the lines of this poem, which belongs to “Returning to the Farm to Dwell: Five Poems.”

When I was young, I was out of tune with the herd;
My only love was for the hills and mountains.
Unwittingly, I fell into the web of the word’s dust,
And was not free until my thirtieth year.
The migrant bird longs for the old wood;
The fish in the tank thinks of its native pool,
I had rescued from the wilderness a patch of the Southern moor
And, still rustic, I returned to field and garden....
Long I lived checked by the bars of a cage;
Now I have turned again to Nature and Freedom.¹⁹

Tao Yuanming shows the love of his Eastern Garden in following poem:

Far, far the distant view,

¹⁸ Waley, A. Chinese Poems London: George Allen & Unwen, 1946: 90.

¹⁹ Waley, A. Chinese Poems London: George Allen & Unwen, 1946: 92.

Filled with joy I gaze upon it.
People also have a saying,
“One is soon content with that which suits the heart,”
And so I flourish a cup of wine--
Enjoy myself in utter self-content.
I will rest in my retreat
Flowers and herbs in Separate rows--
Woods and bamboo gres screening it in.²⁰

Tao Yuanming’s poetry is more associated with his emotions and feelings about nature; while Xian Xuan (1235-1301) related human experience and sentiments with structures. He wrote about Wang Xizhi’s artistic life on the written inscription on a painting of the Yuan Dynasty:

How Pleasant that elegant bamboo grove!
How good it feels to be in a peaceful pavilion with your bare belly,
Inscribing a copy of the *Dao Dejing* [of *Lao Zi*] for a Taoist friend!
This man, who really knows geese,
Has left behind a romantic ideal!²¹
One can perceive the taste of romantic and happiness experience of the space through this poem.

The Ming author and garden connoisseur Wen Zhanheng (1585-1645) set a high goal for integrating one’s emotions and feelings into the built environment, the garden space. In his *Treatise of Superfluous Things*, Wen thought that the garden should be a space for the experience of roaming in one world so that one can “forget his age, forget to go home, and forget his fatigue.”²² This kind of experience was recorded by the Ming scholar Qi Biao

²⁰ Acker, A. *Tao the Hermit: Sixty Posems of Tao Qian* London and New York: Thames and Hudson, 1952: 138-139

²¹ Poem on Wang Xizhi Watching Geese, Metropolitan Museum of Art, New York.

²² Clunas, Craig. *Superfluous Things: Material Culture and Social Status in Early Modern China*. Honolulu: University

(1602-1645). Qi said, “I would go to the garden early in the morning and come back late at night and leave a domestic business to be attended to under the lamplight.”²³

Through out Chinese history, many famous writings evoke a specific mood of a garden scene. One receives articulate expression in the poetry of Wang Wei (699-759) about his garden. Wang Wei was a successful poet as well as a painter in the Tang dynasty. Wang Wei had a garden named *Lan Tian* (Blue-Green Fields), in which he practiced all his verses and art. Wang divided his garden into aesthetic “cells”, each with a special themed name and each one memorialized in different poem with special emotion. These names of segments were Dogwood Bank, Bamboo Lodge, Northern Hillock, Southern Hillock, Waves of Willows, Lodge of the Mottled Apricot, Sophora Path, Range of the Bright Bamboos, and Lacquer-Tree Garden.²⁴ For instance, in his bamboo studio he wrote the poem of *Zhu Li Guan*:

I sit alone deep in a bamboo grove,
Strumming on my lute while singing a song:
In the deep forest, no one knows I am here.
Only the bright moon comes to shine on me.²⁵

The terms ‘bamboo,’ ‘play the instrument,’ and ‘sing a song’ should illustrate the poet’s relaxing life in his garden; however, terms like ‘while sit alone,’ ‘deep forest,’ ‘no one knows,’ ‘the moon’ convey the sad and lonely mood of Wang Wei. Thus, when one sees the bamboo, or plays the instrument, or sings a song, one can feel the same moods as Wang Wei.

Text not only delivers sad emotions within specific environments, but it also expresses the delight of the space and time. The great Song poet Ouyang Xiu (1007-1072) recorded his

of Hawaii, 2004: 41

²³ Lin, Yutang. *The Importance of Living*. New York: Jon Day, 1935: 334

²⁴ Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin’s Press: New York, 1986: 56-57

²⁵ Wang Wei, *Zhu Li Guan*

pleasure of the living in terms of the seasonal changes of the garden scenes: “When the sun rises, the forest mists vanish, and when the clouds return, the crags and grottos fall into shadows; these alternations of light and darkness mark the mountain’s dawns and dusks. As the wild flowers blossom, they send forth a subtle fragrance; as tall trees bloom, they yield deep shade; then the winds and forest are lofty and pure, the rivers dry up and their stones are exposed; these are the four seasons in the mountains.”²⁶

Shen Fu, in the chapter “The Little Pleasures of Life” in *Fusheng liuji* (Six Chapters of a Floating Life), described the pleasure of enjoying the revealed and concealed views: “In the big open spaces, plant bamboos that grow quickly and train plum trees with thick branches to cover them. This is to show the small in the large. When the courtyard is small, the wall should be a combination of convex and concave shapes, decorated with green, covered with ivy, and inlaid with big slabs of stone with inscriptions on them. Thus when you open your window, you seem to face a rocky hillside, alive with rugged beauty. This is to show the large in the small. Contrive so that an apparently blind alley leads suddenly into an open space and the kitchen leads through a back door into an unexpected courtyard. This is to provide for the real in the unreal. Let a door lead into a blind courtyard and conceal the view by placing a few bamboo trees and a few rocks. Thus you suggest something which is not there. Place low and a few rocks. Thus you suggest something which is not there. Place low balustrades along the top of a wall so as to suggest a roof garden which does not exist. This is to provide for the unreal in the real.”²⁷

The above examples present well how poetry was incorporated into a garden’s scheme in order to invoke a semantic meaning and a specific mood in the garden’s scenes. Poems are usually applied on the literary inscriptions, which can be found in every corner of a garden.

Text on inscriptions can be a complete article. Single Chinese characters and phrases were

²⁶ Egan, Ronald C. *The literary Works of Ou-yang Hsiu (1007-1072)*. Cambridge: Cambridge University Press, 1984: 216

²⁷ Lin, Yutang. *The Importance of Living*. New York: Jon Day, 1935: 331

usually sufficient to evoke a more comprehensive meaning for understanding. For instance, the name of the *Yuanxiang Tang* (Hall of Distant Fragrance) in the Humble Administrative Garden in Suzhou comes from the Song's famous philosopher Zhou Dunyi's *Ailian Shuo* (The Love of Lotus), "Fragrance in the distance makes it even more pure and distinct." The following verse, "growing out of muddy waters yet remaining uncontaminated," obtained more attention to the space's meaning. The association of Zhou's first verse with the building tells the visitors that there is fragrance of unknown flowers at a distance from the hall. The second verse implies that lotus blossoms emit the fragrance. With the personality of the lotus that is described in the second verse, visitors can appreciate a highly refined taste in the space of *Yuanxiang Tang*. Through these literary inscriptions, scenes and poetry complement each other in order to give the visitor the fullest possible sense and appreciation of the space.

Text and words are really powerful tools to build the authenticity of a structure/place, making those spaces memorable and touchable. The power of the "word" can be observed in the text of the Qing novel *Dream of the Red Chamber* (*Hong lou meng*, also known as The story of the Stone). The novel describes the residential garden, *Daguan Yuan* (Prospect Garden). Instead of concentrating on the garden's construction; the novel's attention focuses on the act of naming the scenic spots and buildings in the garden sanctuary.²⁸ Joseph C. Wang argues the importance of naming in House and Garden: "Assigning names to gardens, as well as to the structures and scenery within them, is an important literary expressions in garden space".²⁹ These words embody an aesthetic of spontaneity, as well as hosts' taste, self-expressions to the space. As important as the first note in the music, in Chinese architecture the instant of naming confers to a building its imperishable mark of authenticity.³⁰

²⁸ Cao Xueqin. *The Story of the Stone*. Vol. 1: The Golden Days. Translated by David Hawkes. Harmondsworth: Penguin Books, 1973: Chapters 16-17.

²⁹ Wang Qijun. *Zhongguo minjian zhuzhai jianzhu* [The architecture of China's folk dwellings]. Beijing: Jixie gongye chubanshe, 2003: 93

³⁰ Liu, Cary Y. "The Ch'ing Dynasty Imperial Library, Wen-yuan-ko: Architecture and the Ordering of Knowledge."

French archaeologist and litterateur Victor Segalen and Frederick Mote's work³¹ give the description of the emotional and aesthetic conceptions in architecture and its connection to the memory of the text in China.³² In China, the imperishability [*buxiu*] of words predominates over the physical durability.³³ A name usually can link itself forever with persons, places, or events, whereas its built structures might only temporally exist. For example, the well known Lei Feng Pagoda (*lei* literally means thunder and *feng* means peak) at Hangzhou is immortalized in the classical Chinese novel *Bai She Zhuan* (the Legend of the White Snake). The pagoda collapsed in 1924 and had kept remained on site for about 80 years.³⁴ Built in the Song dynasty, the wooden body of the pagoda was destroyed in the *Ming* dynasty and remained its brick body portion since then. This incomplete structure of Lei Feng Pagoda is even appreciated as the beauty of the fragment. The literati named the scene of the fragment of Lei Feng Pagoda in the term *leifeng xizhao* (Lei Feng pagoda in Sunset). This term is immortalized. Despite the incomplete image of the pagoda, the remaining part of the pagoda is still perceived as an original and complete structure in one's mind. This is because the pagoda's name provides people who know the story with memories and feelings of the space. Thus, the memory and feeling of its name substantiates its authenticity in words and writing. Moreover, the incomplete structure itself is truly caught between its past and present.

Memories exist in the whole Chinese history. Each poet's and artist's memory has always

Ph.D. dissertation, Princeton University, 1997: 269-281

³¹ Frederick Mote wrote a seminal article on the city of Suzhou. For an interesting study that develops many of Mote's ideas and offers new insights, see Xu, Yinong. 2000. *The Chinese City in Space and Time: The Development of Urban Form in Suzhou*. Honolulu: University of Hawaii Press.

³² Kao Yu-kung. "Chinese Lyric Aesthetics." In Freda Murck and Wen Fong, eds. *Words and Images: Chinese Poetry, Calligraphy and Painting*. Princeton: Princeton University Press, 1991: 47-90.

Mote, Frederick W. "The Arts and the 'Theorizing Mode' of the Civilization." In Christian F. Murck, ed. *Artists and Traditions: Uses of the Past in Chinese Culture*. Princeton: Princeton University Press, 1976: 3-8

³³ The imperishable quality of words is maintained in the *Zuo Zhuan*, which records that words or discourses [*yan*] are the third imperishable behind virtue [*de*] and merit [*gong*]. See Legge, James, trans. 1985. *The Chinese Classics*. 5 vols. Reprint ed. Taipei: Southern Materials Center. (1985, 5: 505-507)

³⁴ Ruan, Yisan. *Chengshi yichan baohu lun* (The Analects of Urban Heritage Conservation). Shiji Chubansh: Shanghai kejijishu chubanshe, 2005.

evoked emotions that can be found in a landscape, a pine, a flower, bamboo, a bridge, or a pavilion. The personalities of these elements became symbols of different feelings that were summoned up when one enjoys the garden space. This long history of the poetic and artistic tradition relating to the garden space well combined the emotional and spiritual aspects with the beauty of physical and natural environment. As Confucius said in the very first lines of his Analects: “There is no joy that can compare with learning, and in going over what one has learned.”

Chapter 4 Emotional Elements in Chinese Garden

Chinese gardens are the very poetry of space. Their space is created to directly appeal to one's emotions and serve all senses: visually unfolding a succession of pleasing surprises; introducing textures which seek to be touched; bringing the perfume of blossoms; capturing whispers of moving leaves and water; exploiting trees that are varied in their beauties in different times and seasons. Osvald Siren, who visited many Chinese gardens said: "What has stood most clearly in my recollection, were not the formal elements of the gardens, but the impressions of them as a whole, the atmosphere and the emotional values attaching to this...despite the far advanced decay that has overtaken them...a certain measure of living charm and expressiveness."¹ He also quoted an old Suzhou poet to give an idea of these aesthetic conventions, and contemplation involved with Chinese gardens. "One should have knowledge of the historical background; one should enter the garden in a peaceful and receptive mood; one should use one's observation to note the plan and pattern of the garden, for the different parts have ... been carefully weighed against each other like the pairs of inscribed tablets on the pavilions. ... One should endeavor to attain to an inner communion with the soul of the garden... the mysterious forces governing the landscape, and making it coheres."² After reading Osvald's opinions, a few questions are raised and wait to be answered: What are the atmosphere and the emotional values in Chinese garden? What kinds of garden elements contribute the emotional values? How do garden elements present the emotional values? How do these varied emotional elements relate each other and achieve a unity in garden space?

Exploration

Exploration is an important value that contributes to emotional space in the gardens. Shen

¹ Siren, Oswald. Gardens of China. New York: The Ronald Press, 1949: iii

² Siren, Oswald. Gardens of China. New York: The Ronald Press, 1949: 94.

Fu, in the 18th century, proposed an original strategy for spatial exploration which combines illusion, reality, disclosure and surprise: “Here is a way to show the real amidst the illusion: Arrange the garden so that when a guest feels he has seen everything he can, suddenly take a turn in the path and have a broad new vista open up before him, or open a door in a pavilion only to find it leads to an entirely new garden.”³ His views show that strategies of concealment and disclosure by different design methods play significant role in providing visitors a dynamic exploration experience. Through concealing, exposing, revealing, or disclosing, the space generates feelings of curiosity, wonder, and surprise, or awe, which gives people motivations and different reactions to explore. Thus, a beautiful but mysterious environment is created, arousing wonders and surprises to everyone.

In the classical Chinese novel *Dream of the Red Chamber*, one of the principles of garden designing is that even when the garden was large, it had a hill immediately after the entrance. “Without this hill, the whole garden would be visible as one entered, and all its mystery would be lost.”⁴ The usage of a hill at the entrance is a general way in Chinese architecture to conceal and create a sense of mystery. A passage would lead into the concealed part, allowing only a partial glance.

Structure elements, a thicket or a wall, are always applied to suggest the coming amazing and wonderful spaces. These elements usually work in conjunction with footpaths or corridors. They are used to screen, direct and control visual as well as physical explorations. Wall is the most effective and important implement to designers. “Garden walls were the principle device to create spatial mystery and psychological anticipation in Jiangnan gardens. As such, they were more powerful than the corridors and walkways. A moon-gate carried a potent symbolic connotation as an opening into another world and possessed a

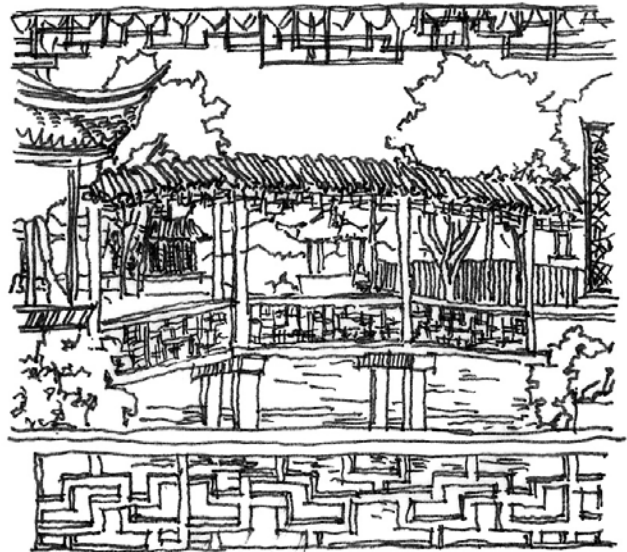
³ Shen, Fu. *Six Records of a Floating Life*. Harmondsworth: Penguin, 1983: 61

⁴ Cao Xueqin, *The Story of the Stone (I-V)*, (*The Dream of the Red Chamber*), trans. by D. Hawkes. Harmondsworth: Penguin, 1973: 327

strong attractive force to draw people onwards.”⁵

Differing from Western gardens that use axis to guide visitors to a designated object or view for the exploration experience, the Chinese gardens focus more on the wondering of infinite space. To provide the illusion of infinite distance, the water is not visibly terminated, but the ends of ponds were designed to turn out of the view after a tree or some rocks. Moreover, using vertical space to deliver staggered perspectives also deliver the similar perception. For instance, one roof visible in the distance beyond another suggested that the space went on further and further; the so-called borrowed scenery method.

The employment of multiple spatial layers implies the infinite of distance and attracts visitors in exploring the space. Unlike the French garden where space is very clear and distinct, the Chinese garden space is layered spaces. The whole garden is in a sense a composition of many courtyards. Some are half open-ended. Some hide in the corners out of sight. Some are cut off like dead-end courts. Before visitors reach to the layered courtyard with various effects, a blank and pure alleyway entrance is commonly applied in the space design to sharpen the visitors’ responses in preparation. Rocks, plants, walls, openings, corridors, courtyards, or ponds can act as the component of spatial layers to fabricate and enhance the distance and the depth in space. A wall frequently functions with special designed openings (windows or gates). Sometimes, pavements or stairs go cross the openings. In the Humble Administrative Garden, an opened corridor guides one’s eye on a covered bridge. Beyond it is a pavil-



Multiple Layers, Humble Administrative Garden, Suzhou, China

⁵ Han, Pao-The. *The Story of Chinese Landscape Design*. Taipei: Youth Cultural Enterprise, 1992: 153

ion sitting on rocks and a hall that is half hidden behind a tree. Through these, blurred among the shadows, is a suggestion of more trees and other structures. Thus, the space goes beyond layered corridors, courtyards, and plants, over the pond and small hills. These parts work together to give three dimensions to the space, forming the distance as part of the foreground.

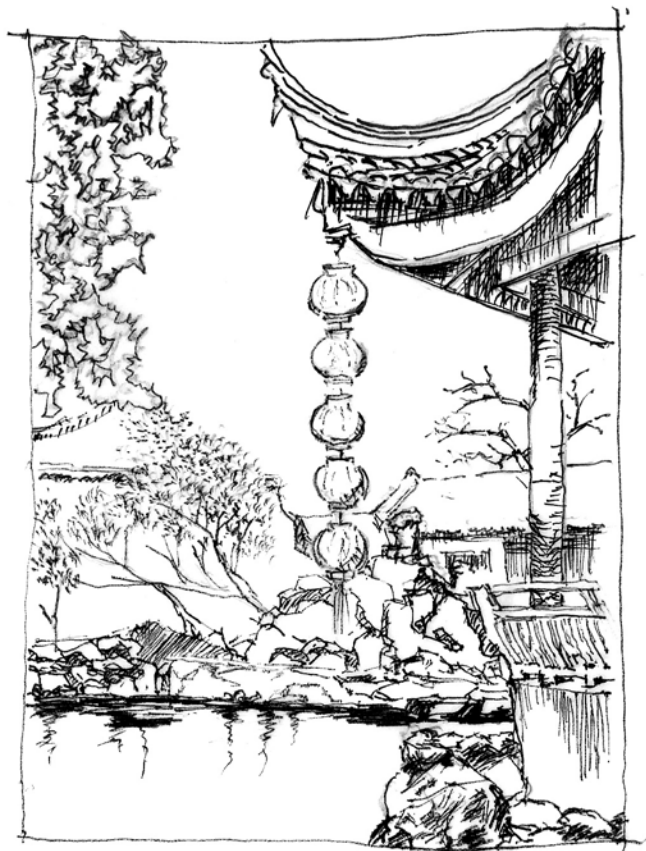
All above spatial wonders and surprises are all shaped by asymmetry, absence of straight lines, and unexpected changing of perspectives. Western geometric gardens reflect a beauty of science. The Chinese garden space is a diffusion of curves and asymmetry, reflecting the beauty of man's humanization with nature. Siren has noticed that the asymmetry and polyperspectiveness are used as common traits in Chinese art and landscape design.⁶ The rigid straight lines regulate and restrict a space, while curves soften and free space. It cannot be avoided to use straight lines in garden space, for instance, the rectangle layout of buildings. However, curves and irregularity catch one's most attention in garden space, whether of rockeries, gates, paths, or flower beds. Gates and windows are shaped into a leaf, a flower vase, or the moon. Even columns and walls, where straight lines cannot be broken up, are designed irregular by luxurious and dramatic decoration, plastering, and carving. By doing so, the straight feeling is totally hid behind the curved and irregular design.

The asymmetry and geometrical irregularity introduce the disorientation. For instance, the fairly small pond gives a large feeling to allow one want to search more, by its irregular shape so that one cannot see the all pond at once. This disorientation generates a searchable space to provide more experiences to visitors so that they can enjoy the process in reaching the goal, not just the arriving of the goal itself. Moreover, audience can also have a sense of being lost in a wonderland. They will feel an endless series of possible scenes in an unlimited space without noticing the real size of the place.

⁶ Siren, O. *China and the Gardens of Europe of the Eighteenth Century*. New York: Ronald Press, 1950.

The great variety in the construction of Chinese space provides a lot of delightful and interesting perceptions during the surprise revealing process, which is limited in the traditional West gardens in where variation mainly focuses on the change level of approach by using steps. Gardens can have little steps with long stretches of path between or have groups of steps with green shrub-plantings about them.⁷ In the Chinese space, especially in the scholar garden, much delight comes from rising from one elevation to another higher one, and then descending into a “valley” or maybe to a horizontal water surface. Comparing to the western gardens that usually sculpt the land into terraces at each elevation, the Chinese space enjoys a variety forms of decks and terraces. The employment of the arch shape (like half-moon shaped bridges) is another tool to create an up-and-down experience for visitors. The passage comes from one elevation, up and cross, and then down again.

The location of buildings or structures also dramatically contributes the effects of the disclosed experience. The builders are not concerned with the space inside buildings/structures, but focus on their positions in a framed scene and the effectiveness they achieve. Buildings or structures are either hidden by trees or rocks and walls. Sometimes, they can be easily seen but not easily accessible, due to a winding footpath or a crooked bridge. For example, in the Master of Nets garden, a pond and rocks block visitors steps to access the farside building, but only catch a view



A Hidden Building, the Master of Nets, Suzhou, China

⁷ Peixotto, Earnest. *The Spirit of the Garden*. Boston: Little Brown and Co., 1923: 15

a building's corner. In addition, the raised platforms, pavilions, or towers also give a view of the distant panorama, or the garden scenery around it. Such kind of disclosure in the space design confronts us with the inconceivable mystery of the beauty, simultaneously concealed and disclosed. Fa Tsang says: "Concealing and revealing is simultaneous; being one, they have no beginning or end..."⁸

Participation

Unlike traditional Western gardens which can be a merely resting and relaxing space, Chinese gardens carry the significant role on real life living functions. This real life experience can be seen clearly in the famous Qing novel, *The Dream of the Red Chamber* (*Hong Lou Meng* or *The Story of the Stone*), in which the rise and decline of a powerful family is narrated; and the Ming novel *The Golden Lotus* (*Jin Ping Mei*). From the discussion on thoughts and culture of Chinese garden in the previous chapter, it can be concluded that the Chinese garden was a place for activities of the whole family and scholars, which shaped the garden form. Thus, varied design methods were employed in the garden so that the owner and his friends and family can meet in the gardens and indulged in different activities. Gardens provided the ideal environment for entertaining, composing verse, and admiring art. "The gardener, according to the Chinese phrase, is the Guest of the Absolute; yet sometimes he acts as host to a number of chosen friends. Never is the garden open to indiscriminate acquaintances—as is the western custom. But occasionally a few appreciative persons are invited to practice the seven arts which occupy the leisure of gentlemen—calligraphy, painting, performing on the table lute, playing chess, writing verses, drinking wine and cultivating flowers."⁹ Through practicing everyday activities, one attaches his inner emotional and spiritual world into the physical environments.

⁸ Cleary, Thomas F. *Entry into the Inconceivable*. University of Hawaii: University of Hawaii Press, 1984: 168-169

⁹ Siren, O. *China and the Gardens of Europe of the Eighteenth Century*. New York: Ronald Press, 1950: 75

A variety of architectural units was designed to accommodate and serve these activities in the garden. The *lou* are large buildings used as living areas; *tang* is a place for meeting with guests or where the ancestral tablets would be housed; *xuan* refers to a studio for painting, writing or studying; *juan* is regarded as a library space; *ge* is inner chambers or private rooms for families. *Ting*, *xie*, *fang*, *lang* are important structures for stopping and resting and appreciating that sit in a freer way, far away from the house part. They are more in dialogue with the natural elements, such as rocks, water, and plants. All above architectural spaces satisfy the different needs of the individual, the family or literati group, ensuring the creative energies of the scholars.

Besides architectural elements, natural elements, rocky mountains and waters are also employed in Chinese gardens for people to participate in. Mountains not only can be climbed to afford views over the garden but are often penetrated with caves so that the participant could enter into a grotto-like un-



Rocky Mountains in Garden

derground world. The feelings inside a rocky mountain may induce the similar sense of fear in English gardeners of the eighteenth and nineteenth centuries. Thomas Whately, prominent and influential writer on English gardens in the eighteenth century, also sought the quality of ‘danger’ in rocks in *Observations on Modern Gardening*. He wrote: “...if the rocks are only high, they are but stupendous, not majestic; breadth is equally essential to their greatness...the terrors of a scene and nature are like those of a dramatic representation; they give alarm; but the sensations are agreeable, so long as they are kept to such as are allied only to terror.”¹⁰

However, the most important role of rocks in Chinese gardens is to let viewers to ponder

¹⁰ Siren, O. *China and the Gardens of Europe of the Eighteenth Century*. New York: Ronald Press, 1950: 35-36

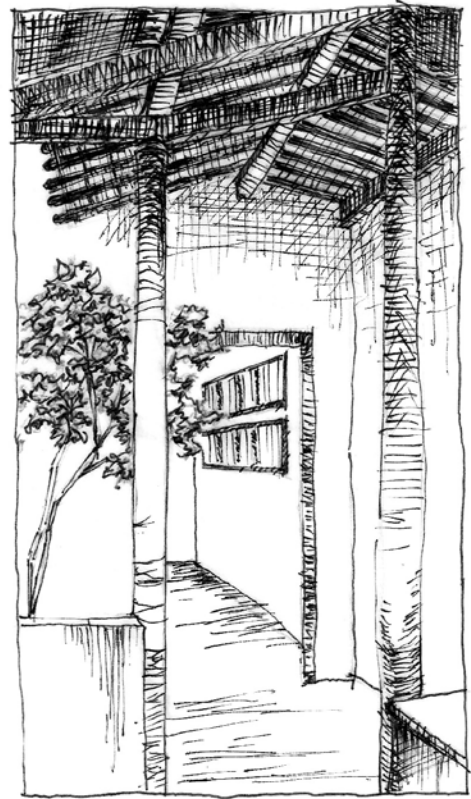
their suggestive shapes. For example, the huge 'Island floating on the Sea' piece in the Summer Palace garden has a well-carved sea with stylized waves on an oval base, which has a rugged and un-carved natural rock top. Moreover, the Taihu lake rocks can be arranged to imitate flying birds or lions and to the untrained eye they are just abstract sculptures. Boulders can be arranged with trees to form a small composition here and there. These miniature compositions are hidden everywhere for the visitors to seek out. Although, the rocks are artificially cemented together, one would easily imagine being perched on a real mountain environment. This experience to give the impression of wildness is totally different from the calming feeling brought by the water. This potent wildness of nature was achieved and concentrated through the choosing and polishing process in creating a rocky mountain in the garden. In western space, the horror of crucifixion and grotesque gargoyles in the Christian Church are part of an encompassing pattern that reconciles views to their immediate impact in a similar way.

'Where there are mountains,' goes an old Chinese saying, 'there is bound to be water in the same place.'¹¹ Water not only delivers its physical beauty in a garden, but also balances the rocky mountain and represents a harmony nature. Water provides the movement in the garden space. Chinese really appreciate the waves and wrinkles of the water that are caused by a light breeze. Water is also regarded as a cooling, refreshing, or playing source. Covered or uncovered bridges, pavilions, and terraces are usually built next to the water for interaction. In the long months of summer heat, the names of pavilions next to the water can bring people a feeling that a breeze is blowing across the water surface, such as the Pavilion of Diffused Coolness, the Water Cloud Kiosk and Hall of Lapping Waves in Beihai Garden in Beijing. Water also brings the pleasure to people. One can imagine that a scholar might spend all summer afternoon in a pavilion setting next to his garden pond. He may look down at the swimming fish, and breathe the scent of lotus flowers and other plants through

¹¹ Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin's Press: New York, 1986: 165

the breeze. He might also have a fishing pole over the pond and does not really want to catch anything but merely for relaxing with the water. And later he might lean over and hold the reflection of the moon light in his hand.

Doorways/corridors in Chinese gardens usually carry calligraphy inscriptions that are informative poetic messages. They're displayed against the white washed walls for visitors to discuss their meanings and appreciate the beautiful calligraphy. The most important role of these inscriptions is to stir ones' memories, because these slabs are engraved with the poems and memories of those who have sat in the garden in the past. To Westerners, this is an unexpected convention; while for Chinese, an old garden which does not include calligraphy is in some sense unfinished: its presence adds significance and beauty to the charm of ancient trees and stones.¹²



Calligraphy Inscriptions in the Corridor, Liu Yuan, Suzhou, China

Chinese gardens are liberally scattered with lots of written signposts. All these calligraphy pieces provide literary allusions to visitors, which is like picture captions in the Western sense. But different from the picture caption, calligraphy pieces serve as a counterweight in the garden composition: They provide a running commentary, a palimpsest of meaning, an historical verdict and the best perception of the ages.¹³ Through the calligraphy in gardens, Chinese drew inspiration and memories. The Chinese liked to express literary allusions in the names of pavilions and halls, and in poetic couplets which they hung on either sides of the garden gates, for instance, a reference to the 'Peach Blossom Spring' would have

¹² Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin's Press: New York, 1986: 22

¹³ Moris, Edwin T. *The Gardens of China: History, Art, and Meanings*. New York: Charles Scribner's Sons, 1983: 150

suggested many levels of meaning connected with an idealized vision of the past. Western gardens space also gains the inspiration from a classical antiquity, but in very different tradition. In eighteenth century England such allusions were more likely to be architectural: A Temple of Flora in the Classical style carefully sited above the lake at Stourhead, suggested to the educated visitor a comparably lost world of pastoral harmony.¹⁴

Here, naming and the products of naming are a significant part in Chinese emotional space. The action of naming helps Chinese literati express their historical, poetic, and artistic traditions. People are imbued by this written tradition and those characters used to describe a structure or a place would evoke the memory of a great philosopher or poet with varied moods. These written phrases, strewn everywhere in Chinese space, such as gardens, bridges, streets (characters were even engraved on famous mountains). They give viewers a fourth dimension in getting the hints to catch the soul of the place. The Ge Yuan in Yangzhou, for instance, is composed of a single character meaning “one”, followed by the character for “garden.” At the moon-shaped entrance, several clumps of bamboo adorn the entry path against the white wall.

The name of “Ge Yuan” was inscribed horizontally in a rectangular inscription above the gate. Although this pictorial composition appears very plain, one needs to comprehend the subtle meaning of the term behind the simple façade.



Here, the calligraphic shape the Name Inscription above the Entrance, Ge Yuan, Yangzhou, China

¹⁴ Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin's Press: New York, 1986: 16

of character “ge” represents half of the Chinese character “zhu” (literally means bamboo), which reveals the symbol of unyielding integrity in the Chinese mind. Thus, one can know through the name that the owner of Ge Yuan considered himself as the only remaining bamboo branch left in a troubled and chaos world. Moreover, the owner would like others to appreciate his good personality and character through the naming of the garden.

Aesthetics

The sense-concentrated design work is critical to create emotional space in Chinese gardens, because this interaction offers a broader perspective and understanding for philosophy of aesthetics in garden space. “Art is an aesthetically developed and refined area. Only the senses of sight and hearing properly have their own art forms which have developed a language, and a technique... The aesthetic perception of the environment is clearly more total, the common result of several senses... Environmental works that in a way are connected to the tradi-



Shadow on Windows, Yi Yuan, Suzhou, China

tion of garden art, and landscape architecture... appeal to the senses of smell and touch too...”¹⁵ Here, integrating with different human senses in the design stimulates visitors’ feelings of beauties, wonders and surprises. Describing the range of perception in Chinese gardens, Johnston says: “Chinese gardens are... making a direct appeal to the emotions and devoted exclusively to serving all the senses: visually unfolding a succession of pleasing surprises; introducing textures which seek to be touched; mingling the perfumes of blossoms and bark; capturing whispers of moving leaves and water; exploiting the ever chang-

¹⁵ Sepanmaa, Yrjo. The Beauty of the Environment. Helsinki: Suomalainen Tiedakatemia, 1986: 74-75

ing character of the trees whose varying beauties enhance each season.”¹⁶

Vision, auditory, and scene are widely incorporated into the design. Visitors’ aesthetic contemplation intimately relates to visual, audible, tactile, or olfactory aspects of the space by listening to various sounds (rain drops hitting leaves, sounds of crickets, birds, or frogs, or sound of the wind.), smelling different odors (scents from plants and flowers, the fragrance of age due to rain and sunlight), or watching particular objects, or sight. This aesthetic contemplation was already known in pastime of China. For example, listening to the nature was developed as a particular pastime and chapter in environmental aesthetics. This can be found in the master painting piece by Ma Lin, *Listening to the wind in pines*.¹⁷



Curved Black Tiled Roof of Walls, Liu Yuan, low the contours of the site that run themselves in Suzhou, China

Giving visual impression to viewers is the most significant method to deliver the aesthetic quality. Walls, again, provide a central role in creating a drama like atmosphere in the garden. They always serve as a backdrop for the vibrating shadows and silhouettes of bamboo or plum trees. Wall itself affects one’s moods and perception in different time shifts of a day within a garden. In the morning, when the fog is disappearing, the black tiled roof of the walls seems float above the ground. Because walls always fol-

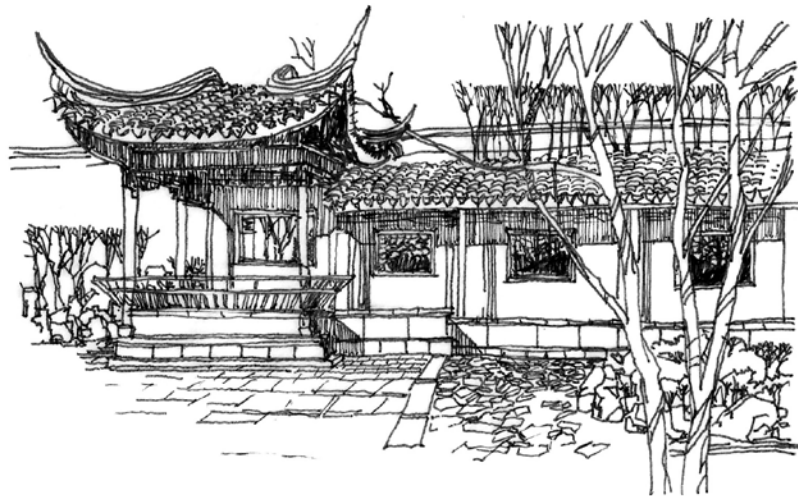
straight, in curve, go up and go down, these black tiles literally present the image as a swimming dragon. After the sun rises and shifts itself in the sky, the same walls change the feelings of solidity and depth based on different patterns that are cast on the wall. In the sunset, some parts of the walls are colored in gold contrast-

¹⁶ Johnston, R. S. *Scholar Gardens of China*. Cambridge: University Press, 1991: 1.

¹⁷ Cahill, J. *Chinese Painting*. Geneva:Skira, 1977: 64

ing to the dark parts of walls, which evokes another mood of the space. Maggie Keswick thought the garden walls are the unpainted areas of silk waiting for a landscape painting. They're not merely a background, but an evocation of infinity.¹⁸

Walls in garden play a highly decorative role. Li Yu (1611-1680) saw a special appeal in walls made of rubble, or of 'plaited bamboo or branches of the jujube bush'—often decorated with climbing roses.¹⁹ The *The Crafts of Garden (Yuan Ye)* also mentioned that "such wattled walls are better than trellises; they are more rustic in appearance, and have a fragrance of woods and mountains".²⁰ Thus, the texture of the walls enhances the aesthetic of garden space. The walls of pavilions also decorate the garden space. Although the pavilion is open on all sides, one side is structured with a windowed wall. The window is either in square or oval that frames bamboo grove or other plant leaves and rocks as if in a painting. Because of the opening in the wall, the pavilion space not only provides enough private for people sitting inside, but also presents visual teases. These windows inventively and delightfully play on what is real and what is false.



the Wall of Paviliion, Gengle Tang, Tongli, China

¹⁸ Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin's Press: New York, 1986: 135

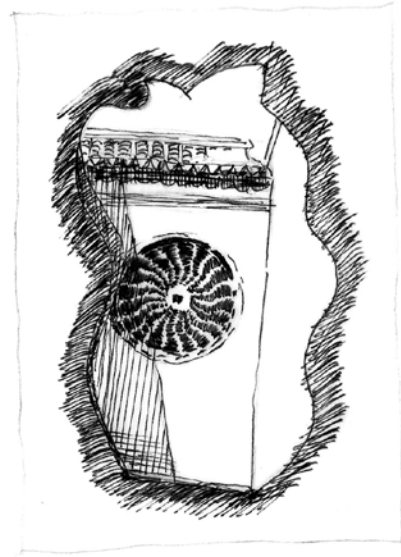
¹⁹ Li, Yu. Martin, Helmut ed. *Li Yu Quan Ji*. Tai pei: Chengwen. 1970

²⁰ Ji, Cheng. Translated by Alison Hardie. *The Crafts of Garden*. Yale University: Yale University Press, 1988.

Garden walls were usually designed with openings, which apply framing techniques of Chinese landscape paintings to express the aesthetic of space. The Chinese believe that “by studying the organic patterns of heaven and earth a fool can become a sage; and so by



Wall Openings, the Master of Nets, Suzhou, China



Shapes of Openings, Canglang Ting, Suzhou, China

watching the times and seasons of natural phenomena we can become true philosophers.”²¹ Ways and means have been devised to let space live with the times and seasons. The simplest way is to frame up the objects one wishes to observe as one does with a painting. Framing techniques in Chinese gardens can be in two-dimensional ways (wall+opening, location of the opening—if a door, then with pavement or stairs crossing the opening to give three dimensions, or with layered walls and openings) or in the complicated three-dimensional methods. Therefore, the beauty of the environment and aesthetics of the space can be perceived.

Wall openings are observed everywhere in a garden. The most popular opening is the

²¹ Moris, Edwin T. *The Gardens of China: History, Art, and Meanings*. New York: Charles Scribner's Sons, 1983: 121

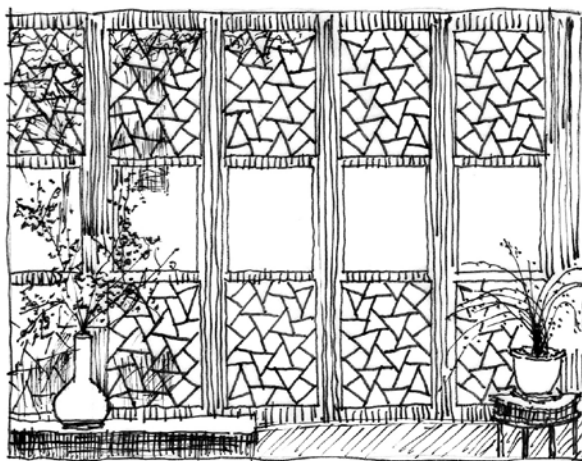


Moon Gates, Yi Pu Yuan, Suzhou, China

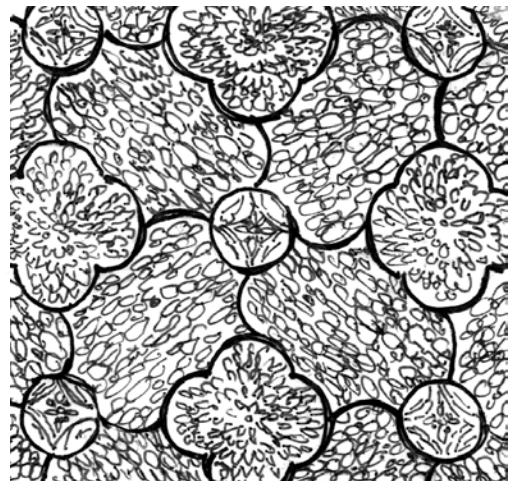
circular shaped gate, popularly called a moon gate, leading the passageways from one space to another space. This circular shape provides the best possible setting for a view because such gates focus down the eye, just like the circular shaped lens of a camera that intensify and concentrate on all views. This effect not only achieved by the round shape, but also by the surrounding dark edging and the thickness of the wall itself. In addition to moon shaped gates, there are other door/entrance openings in different shapes and metaphors, such as forms of petals, leaves, fans, and vases,

which making the spatial viewing more attracting.

Varied designed patterns arranged by different materials help the garden space to achieve the intimate mood. Patterns of windows in the walls are usually constructed of roof tiles, wood, metals. These materials compose into geometric patterns, such as the breaking ice



the Window Pattern, Yi Yuan, Suzhou, China



the Pattern of Pebbles

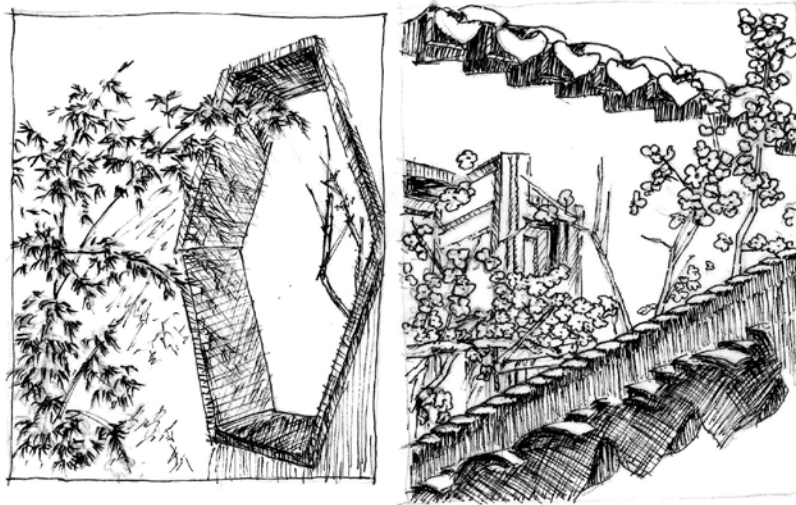
pattern, splinters of sharp triangles; petal shapes, and the cloud pattern. Some can work into scenes of birds and flowers. Not only do wall windows present visitors imaginary and fanciful in shapes and subject matters, the designs of path and courtyard mosaic patterns also impress one's eyes and let people experience different texture and color. Insignificant and even waste materials can be found through the ground: broken tiles, fragments of pottery, pebbles, etc. Here, setting the pebbles into the paths and courtyards is the common way to generate various patterns: circles, rectangles, petals, the shapes of fish or animals.²² Paths in Chinese gardens are different from those found in the West. They constantly change from one pattern to another, with a change in rhythm to announce a change in another function. Hence, the employment of varied pebble mosaics can define different spaces and emphasize the alternations in moods. "One pebble mosaic may be formal and geometric, and the next one may be gentle and feminine. They help the garden space to achieve the intimate mood."²³

Water brings life and movement to the garden. This vivid feature presents the traditional ideal *yin* and *yang*. Such a movement can be perceived from the winding waves, mirroring the changing sky, and suggesting another fairy world through its half-reflecting surface. If a garden loses its water, the actual life of those followers and plants, such as bamboos and lotuses, will die, and then the aesthetic life also will be gone.

Plants help the garden to accomplish the visual effects of space. In the season of fruit blossoms, trees unfold in all their different greens so that each courtyard space becomes more intensely intimate and enclosed. It's really a sensational world when leaves and branches move in the breeze, and the shadows dance on the white walls. Western gardens employ various forms of upright columns in plaster, brick, wood, and stone as a background for

²² Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin's Press: New York, 1986: 142-144

²³ Keswick, Maggie. *The Chinese Garden History, Art & Architecture*. Academy Editions: London/St. Martin's Press: New York, 1986: 147



Plants and Walls, the Master of Nets, Suzhou, China

plants.²⁴ The visible planting wires growing against a column of gray stucco or mossy brick builds a true visual effect in Western garden space. Chinese gardens further use the open windows of halls and corridors to frame the bright splashes of shrubs in varied colored flowers highlight the scene of the garden space. In Western garden, especially in English landscape gardens, the structure of the various views to the garden is always in the same approach, although the colors are different and the forms are in varied density. The flowers in the Stourhead in England always deliver the same message to visitors just like a chameleon's skin. However, Chinese gardens love celebrating changes. The growing trees and flowers are more like clothing, sometimes enhancing, sometimes obscuring, and sometimes totally altering the effect of the forms beneath.

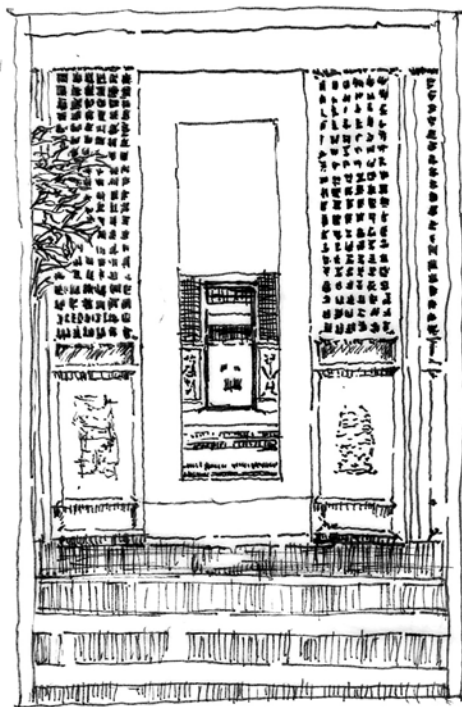
The lotus flowers help create an expressive image in Chinese garden and literature culture. The lotus primarily associates with Buddhism. The plant's leaves can make water bead up like a ball and roll off, which makes lotus a symbol of the Buddhist mind. The lotus rises undefiled from the mud, and no drop of water or mud can attach to the flower or the leaf. Morris also noted that the opulence and perfume of the lotus conveys a mood of erotic languor in more intimate garden space.²⁵ The lotus informs the coming of the summer in Chinese garden. The lotus leaves rise high on their curved stems being full of the water

²⁴ Hvtcheson, Martha Brookes. The Spirit of the Garden. Boston: Little Brown and Co., 1923 : 119-120

²⁵ Moris, Edwin T. The Gardens of China: History, Art, and Meanings. New York: Charles Scribner's Sons, 1983: 180

surface, which produce a dramatic view that is different from the mirror-like water surface in Spring. Lorraine Kuck, who saw them blooming in Beijing's Peihai Park during the 1930s, describes the effect: "The leaves are shaped like an immense rounded bowl with rippled edges. The interior of the leaf is a curious translucent, bluish green, due to a waxen surface. When drops of rain or dew collect in these jade bowls, surface tension pulls up the water into crystalline globules. And if the leaf sways, these jewel-like drops roll back and forth like crystal beads. When acres of those leaves rock together in a light breeze, sheets of electric blue light sometimes flash across the field, refracted from the waxen surface."²⁶

The employment of contrast as a design method further enhances the perception of aesthetic in garden space. Creating contrast within a space represents the *yin-yang* principle. Laozi, the most famous Chinese philosopher, once said, "in order to remain intact, be



Bright and Dark Experience of Residence,
Suzhou, China

dented; in order to keep straight, be bent; In order to be filled, be hollowed. Less is more."²⁷ It can be achieved through the shift in personal perception. In Chinese space, one can have an extraordinary experience of the shift between the "bright" and the "dark." Traditional Western architectural space achieved the bright and dark contrast by using non-functional structures (such as pilasters) at the entrance to create a deep recessed arch space. Sometimes, this forms a huge portico before the main door. For instance, on the façade of Church of Sant'Andrea in Mantua, the light and shade play dramatically over the surface of the building because of the shallowness of its moldings and the

²⁶ Kuck, Lorraine. *The World of the Japanese Garden*. New York, 1968: 33

²⁷ Lao Zi, *Dao De Jing*.

depth of its porch. Chinese space produce the effects by sharpened spatial contrast--a group of closed and open spaces, For example, a dark narrow corridor between two high walls will be followed by a wide space full of sunlight and leaves. Or visitors walk through a small door in the end of the wall of a building and see a different kind of light, a moving dappled light that plays on the wall. What an exciting and unexpected experience! By these methods, one would hear the rhythm of the space. In many Western gardens, the pleached alley composing by varied plants creates a long and “dark” vaulted enclosure. The length of its planting is great enough to make the ends be brilliant spots of light and color, which delivers visitors endless of pleasure.

A particular designed gate (moon-gate or ground-shaped passage) or a corridor is also the usual design instrument to achieve such a feeling contrast. Designers also used a tunnel and/or a cave as an entrance into another world. “In fact, the ideal of another world is closely bound to the theme of the cave, to the point that the typical residence of immortals is called *tian tang*, a heaven [that is, nature, universe] formed by a cave...The caves are connected...by means of subterranean passages that let Taoist adepts travel from one to the next.”²⁸

The charm of the Chinese garden is not only because of the view they offer, but also because of fragrance, tactile qualities, etc. Some of them are even poor in view, but rich in ‘whispers’ of the nature, such as sounds of water, wind, leaves, birds, frogs, or other animals. They attract visitors’ attention and ensure the emotional engagement and communication between human-being and nature.

Providing space or introducing objects to allow visitors to use their ears for appreciating the beauty of nature is by no means a magic approach in garden design. Chinese literary gentlemen loved experiencing the beauty of the rain drops in the gardens. Different from

²⁸ Stein, R. A. The World in Miniature. Stanford: Stanford University Press, 1987: 55

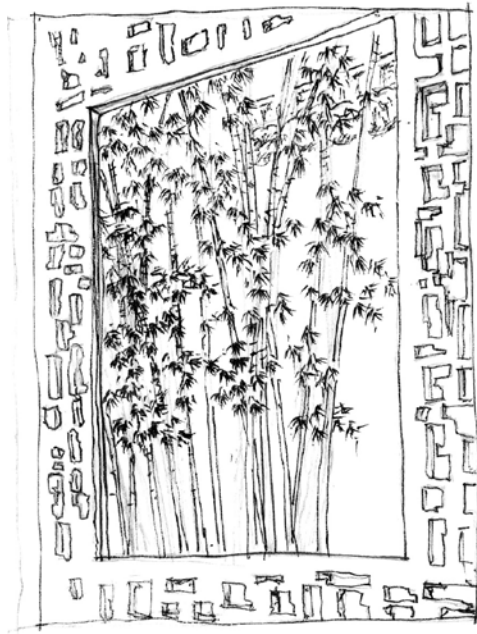
western spaces that enjoy the traditional sunny days, Chinese garden spaces give more attention to the rain. Rain has its charm, and it can be watched and listened to while walking under a covered arcade, the *lang*. *Lang* serves the needs to saunter at leisure and enjoy nature without being disturbed by the weather. *Lang* link one pavilion with the other and guide the way through the special vantage points in the space. This design arrangement is different from typical Western gardens, especially Renaissance and Baroque gardens, in that Chinese *lang* also can curve and bend as it follows the rise and fall of the land. More than providing a place for nature appreciation, *lang* impelled one into natural environment, realizing the Chinese desire to dissolve the disparity between inside and outside. Covered walks (*lang*) often became covered bridges when they led over a watercourse. The purpose was to allow full communication with nature regardless of weather. This space can be observed from the landscape painting done by the seventeenth-century artist Fan Qi on the grounds of the Monastery of Pure Coolness, outside Nanjing.²⁹

Water also plays music in the garden. Chinese gardens rarely use the forced water to make the sound in the design, such as fountains in western gardens, because it is against its own nature.³⁰ However, the scholar gardens did make use of dragon-headed springs to show the most characteristic use of water, the sound. Thus, the fresh water comes from the mouth of dragon-headed spring, bubbled into placid pools, playing the natural music to amuse everyone. The garden space achieves the different sounds of water by gurgling over pebbles and rocks, dashing down steep gullies, and trickling gently from the ends of bamboo pipes. All these sound that one caught in gardens can be found naturally in the mountains sites.

Plants, such as bamboo and banana trees, are also employed by designers to present visitors the sound of the nature. Bamboo is one of the most representative plants in Chinese gar-

²⁹ The picture can be found in Moris, Edwin T. *The Gardens of China: History, Art, and Meanings*. New York: Charles Scribner's Sons, 1983: 93

³⁰ The forced water can be found in the European section of Yuan Ming Yuan. There are a series of life sized animals who spouted water on the hour to tell the time.



Framed View of Bamboo, the Master of Nets,
Suzhou, China



Plants and Flowers in a Courtyard, the Master of Nets,
Suzhou, China

den. It delivers dramatic foliage to space and deliver varied moods and memories to visitors when one watch and listen to the wind move the branches and leaves of the bamboo. Banana trees, like the bamboo, also contribute greatly to the garden all year around. The enormous banana leaves are lustrous and bold and are effective against the whitewashed wall. Banana trees are always associated with the sound of rain drops on their large oar like leaves and the sound made by the wind. Many senses are derived when one hear the rain hit the leaves of banana trees. The *Yuan Ye* says, “The raindrops in the night that fall upon the banana leaves are like the tears of a weeping mermaid” (which are said to turn to pearls).³¹ Thus, pavilions and libraries are always set themselves among banana trees or next to banana trees so that the users can achieve the maximum sensorial moods with the minimum of stimulus.

Symbolism

In Chinese scholar’s garden space, the permanent framework was formed by buildings, artificial mountains and water. Little scope was left in garden for planting on a grand scale

³¹ Siren, Oswald. *Gardens of China*. New York: The Ronald Press, 1949: 13, quoted from his translation of the *Yuan Ye*,

in urban environment. Plants and flowers therefore were used in a symbolic way. The Emperor Qianlong of Qing dynasty once wrote: “When I find pleasure in orchids, I love uprightness; when I see pines and bamboos I think of virtue; when I stand beside limpid brooks I value honesty; when I see weeds I despise dishonesty. That is what is meant by the proverb, ‘the Ancients get their ideas from objects’.” Based on Qianlong’s points, plants and flowers are icons of values, ideals, and personalities accrued over centuries of appreciation. By using of their colors, scent, shapes and of their acoustic properties, plants and flowers help heighten the poetic and aesthetic quality of the garden scene.

The plum blossom (*mei hua*), an exotic plant, is novel and exciting enough to make a colorful splash in lines of poetry with its enrichment of traditional and historical associations. They’re fragile looking but can withstand through the cold winds in winter and welcome the earliest spring. The personality of the plum blossom presents the hope and promise to viewers. Thus, the plum blossom that bloomed against the naked wood in the garden is the sign of spring and rebirth. Daoji used plum blossom to express his own career in their periods of winter and renewal:

Their hidden fragrance touches and awakes the poet—

When their marvelous beauty blooms, it makes an old man feel the spring.

My feelings are so full, it is almost unbearable—

These passions don’t come often, yet still I am lonely.

At dawn I scratch my head in wonder in front of the courtyard looking [at the flowers]:

How could anybody think that I am only an old useless scholar?³²

There are many other plants have such symbolic meanings. The bamboo, a most important plant reflecting the Daoist view in the garden, represents lasting friendship and hardy age, and was prized for its ability to bend with the storm and rise again afterwards. While the pine, being more associated with Confucius, informs that one could be shaken by the

³² Marilyn & Shen Fu, *Studies in Connoisseurship*. Princeton, N. J.: Princeton University Press, 1973: 241

storms yet remain upright and firm. The paulonia and *sterculia plantanifolia*, known in china as *wu tong*, are two other highly ornamental trees in Chinese gardens. The paulonia, a wooden source for making musical instruments, has large flowers in a grey-blue color. The *wu tong*, the legendary perch of the Chinese phoenix, is more celebrated for its edible seeds,³³ and for its fine large maple-like leaves. *Wu tong* trees were constantly painted in Chinese landscape drawings. The eighteenth century poet Yuan Mei wrote about *wu tong*:
Half bright, half dim, are the stars.

Three drops, two drops, falls the rain.

Now the wu-tong tree knows of autumn's coming

And leaf to leaf whispers the news.³⁴

Inevitably, fruit trees were loved by scholars to be cultivated in their gardens. The persimmon, for instance, grows large round and sweet fruits of orange-gold (a joy and lucky color in China) in the autumn. The peach, prized as an ancient symbol of spring, marriage and immortality, is also popular in Chinese gardens.³⁵ The pomegranate (*shi liu*), a exotic plant, represents a symbol of fertility because its red fruits open to reveal innumerable seeds.³⁶

Garden as a unity space

Ling in retirement beyond the World,

Silently enjoying isolation,

I pull the rope of my door tighter

And bind firmly this cracked jar.

My spirit is tuned to the Spring-season;

³³ The seeds are eaten in moon cakes at the autumn festival.

³⁴ Trans. By Robert Kotewell and Norman L. Smith . Peguin Book of Chinese Verse. England: Harmondsworth, 1962: 68

³⁵ Keswick, Maggie. The Chinese Garden History, Art & Architecture. Academy Editions: London/St. Martin's Press: New York, 1986: 179

³⁶ Bid: 180

At the fall of the year there is autumn in my heart.

Thus imitating cosmic changes

My cottage becomes a Universe.

Lu Yun, Fourth Century AD³⁷

Chinese garden space is a symbolic of the universe. Different from the western view that garden space, furniture, paintings, sculpture, ponds, rocks are regarded mere decoration to the building. It's true that they are decorative as symbols in different forms and shapes. For example, the rich ornamented structures with brilliant colors in gold and red, present visitors the romance and inscriptions of classical poetry. Another good example is the Chinese furniture in gardens. Chinese furniture of the apartments could be also assembled outdoors for occasions, such as gatherings of friends for drinking wine, for composing poems, for listening to music, for appreciating drama or natural beauties. Nowhere but in China is furniture such a part portion of the garden space. Hence, all these pieces take the same role as structures themselves to serve the whole universe of the space to stir one's moods, feelings, allusions, imaginations. The Chinese go beyond the decorative elements to seek the higher beauty of art and cultivate man's inner spiritual and moral world.

The qualities of emotional space can be concluded from above discussions on emotional elements in Chinese gardens. The first quality of emotional space is that a built space should provide one the possibility to exploration so that one can perceive the wonder and surprise of spaces. Several methods could be found in Chinese garden space: 1. Using structural (a thicket or a wall conjunction with paths or corridors) and natural elements (a rocky mountain) to block views and give the illusion. 2. Providing space the infinite feeling by creating depth and distance, as well as using multiple spatial layers (layered space). 3. Delivering the experience of wonders and surprise by using asymmetry and curves in designed space, such as rockeries, gates, windows, paths, or flower beds. 4. Introducing delight experience

³⁷ Waley, A. Chinese Poems. Lu Yun, fourth century AD, from 'The Valley Wind', London: George Allen & Unwin, 1946: 89

by creating variety in spatial design and using the up-and-down design strategy through stairs, mountains, bridges, corridors, terraces, and decks. 5. Arranging structures and trees in designated locations for disclosing.

Creating various places for participation is the second quality of emotional space. To achieve this goal, the design should consider following issues: 1. Providing the different functional spaces to allow varied local and daily activities can be hold within the space. 2. Ensuring the space is playful, such as rocky and water. 3. Arranging art pieces along walkways or surround resting places to allow everyone to study and discuss.

Allowing visitors to use different senses to perceive the aesthetics is the third quality of emotional space. Producing visual effects is an important approach to present aesthetics of spaces. The design can employ structural elements in space such as walls as backgrounds for scene, the different material and texture of walls for decoration, openings on walls for framing the views, the shapes of varied openings, varied design patterns made of different materials for decoration or symbolism. Furthermore, natural elements contribute to the aesthetics of space by using the movement features of water and employing plants and flowers in space. Creating contrast (straight and curved, bright and dark, solid and void) is another common way to achieve the result. Provide the spatial shift through personal perceptions is another impressive method to produce contrast. The design also can incorporate gate and corridors in the space to help deliver such a contrast feeling. Besides the vision, hearing elements can also be added into the space by providing a space for enjoying the sound regardless the weather, such as corridors and opened halls or using water and plants.

Chapter 5 Emotional Space and Historic Preservation

The Importance to Preserve Unregistered but Ualuable Buildings in the Context of Emotional Space

Most Chinese houses are less than two hundred years old, although these old-style houses remain in all parts of China. Many of them are changed more frequently than other Chinese architectural forms throughout the history. This is because houses relate to home and family. People who live in houses always want to the most modern conveniences and styles they can afford. Thus, old houses become less desirable for daily living compared to the newer version, although they are interesting to look at or study. Therefore, little preservation work is usually done for residential buildings compared to religious and imperial architecture in China.

However, these old houses significantly contribute to the spatial emotions of historical cities. First, Chinese old houses have been built with the greatest possible range of materials. They are not only built of wood, earth, stone, and ceramic tile, but include lots of metal, straw, animal skin, coral, and every possible decorative fabric. All these material choices depend on the local climate, topography, and family income. This directly results in various visual declarations of geographic location and ethnicity. Many houses are associated with specific ethnic groups known as “minorities.” Their specially made materials and construction techniques establish the local identity of a place.

The form and style of the house suggest the remarkable diversity of habitats and variations in the relationships of the people within them. Many existing buildings may not be “old and historical dwellings,” but are the product of building practices and forms rooted in earlier times. These buildings are more than a material object itself. As Ronald G. Knapp

noted, “Over time, local dwellings usually come to transcend the material structures and the defined spaces that give them shape, as the inhabited build form becomes a home, the theater for the lives of those living within it.”¹ This little walled world records all artifactual and experiential elements of the building: construction materials, building structure, spatial layout, orientation and sitting, ornamentation, furniture and furnishings, calendrical rituals, beliefs and values, cosmo-magical symbolism, gender relations, residential hierarchies, economic status, age rankings, life cycle events (birth, wedding, and death), generations living and dead, war and tear, daily and seasonal activities, and changing patterns of use. One realizes that there is indeed an “archiculture”² manifested in the full range of elusive interrelationships linking house, home and family.

Last but not least, unregistered but valuable historical buildings in Chinese cities document the various settings of habitation, work, and leisure of local residents. Ian Menzies in *Pushcarts Belong in the City* says, “a city doesn’t get its character from brassy new hotels with space-capsule elevators gliding up the walls. Nor does character come from Astrodomes or from phallic monuments to architectural egos. Character comes from people, from the past, from tradition, from the interplay of human forces and emotions in the process of daily life.”³ The group of unregistered but valuable dwellings makes the part of a sense of the living city. Many of them are not architecturally attractive and, in fact, are very plain looking. This large area deliver remains diverse and exciting to the whole city. These old buildings are disorganized. They are erratic and are full of different styles and varied sizes. However, they, together with interesting and vibrant streets/lanes, compose a microcosm of the larger city, although none of them stand on their own as distinguished works of architecture. The most lively and famous living areas are not “developed,” “built” or “made.”

They evolved, resisting cataclysmic change, withstanding fads, adapting incrementally and

¹ Knapp, Ronald G., *China’s Houses, Homes, and Families*. University of Hawaii Press, Honolulu China Institute in America, New York, 2005: 2

² Nancy Berliner uses the term “archiculture” in her *Yin Yu Tang*, the examination of the archiculture of a remarkable dwelling. (2003)

³ Ian Menzies in the Boston Globe, March 24, 1976 “Pushcarts Belong in the City.”

clinging to the character of place.

In China, the group of these buildings is usually constructed of transitory materials, such as wood and earth. One cannot find the timeless quality in this group compared to religious and imperial architecture. Currently, these houses get more and more attentions for historic preservation work. However, most Chinese and foreign researchers are more interested in Chinese dwellings striking objects (especially structures) in terms of their aesthetics, as well as the organization of space and spatial structures. They forget that houses are more than these physical attracting elements. Houses also present local culture, social relationships and family life, which are intangible aspects that wait for preserving. With so many types of houses in China, this research work will primarily focus on those houses in Jiangnan⁴ area.

Unregistered houses in Jiangnan area are all in simple forms with white plaster walls and black glazed clay roof tiles. The long but narrow passage way penetrates a housing block. It leads one down a series of protected courtyards framed by perimeter rooms. The uniqueness of the style not only contributes much to the identity and appeal of old Suzhou,⁵ but also illustrates the typical Jiangnan architecture. They depict the development of urban dwellings from the past to the present. When EDAW and Pei teams worked on the preservation in old Pingjiang residential district in 1996, these old and shabby houses delivered them a truly impression and a memorable experience for local culture and life, “It seems a public passageway at first, but transforms unannounced into a private hall, and you find yourself, abashed, looking straight into a tiny kitchen with a family of five,...you beeline for what seems to be a common space, a simple, stone courtyard, but it turns out to be a private

⁴ The Wikipedia refers Jiangnan as a geographic area in China, which includes Shanghai, the southern part of Jiangsu Province, the southern part of Anhui Province, the northern part of Jiangxi Province, and the northern part of Zhejiang Province. The most famous cities in this region are: Shanghai, Nanjing, Hangzhou, Ningbo, Suzhou, Wuxi, Shaoxing, and Changzhou. <<http://en.wikipedia.org/wiki/Jiangnan>> retrieved on 4/13/2009

⁵ Prentice, Helaine Kaplan. *Suzhou: Shaping an Ancient City for the New China*. Washington DC: Spacemaker Press, 1998: 18

extension of living quarters. ...Another corridor is dark as a tunnel, the footing dirt and for all you know, pitted with holes. Unexpectedly, the passageway releases you into an open court, an actual public space, and you find yourself squinting from the unaccustomed light even though it is a dim, rainy day.” EDAW’s Elizabeth Gourley said, “Walking through that courtyard door, we entered another world, we were experiencing their lives.”⁶ These feelings and experiences make the space more attractive and unique to viewers. Moreover, emotional content of family lives can be experienced

Problems of Historic Preservation in China

Chinese legislation on conservation concentrates on registered heritage sites and buildings. At all levels (state, province, city) of legislation, specific and strict laws, codes and regulations have been well-established and organized into different charts to provide precise approaches to protecting Chinese registered heritage sites and buildings. These places and structures are well protected during the city rebirth process.⁷

The preservation legislation leaves a big gap where new construction activities threaten valuable but unregistered historic structures. These unregistered historical structures often do not survive the redevelopment process. Although Chinese legislation provides guidelines for preserving valuable but unregistered historic structures, these guidelines are very flexible compared to legislation for registered heritage sites and buildings. The regulations give higher authorities (such as the local government) the right to remove, move or deconstruct unregistered historic structures. The most difficult fate of these structures is when they face an economically-focused project. If valuable structures obstruct the city’s development plan, they become unprotected objects under current Chinese legislation.

⁶ Prentice, Helaine Kaplan. Suzhou: Shaping an Ancient City for the New China. Washington DC: Spacemaker Press, 1998: 21

⁷ Check the Appendix for the chart details of Chinese legislation

Therefore, without guidelines to protect less valuable historical sites and buildings city renovation and expansion projects can be developed without regarding to this historic buildings and context. This is the missing part of the Chinese legislation of historic preservation, because these unprotected sites and structures may not be valued as an individual site, but are significant as parts of an entire historic district.

The Emotional Space and Historic Preservation

Emotions arise within a cultural context. Cultural context can be read in physical forms, our built environment. The majority of historical structures including architecture is not just “old” but is also successfully meeting various emotional requirements that are deeply associated with our own time. Teuneo Okada, during his work in the restoration, preservation, and renovation of the Marunouchi station building at Tokyo Station, believes that whether a building meets the rational requirements, emotional requirements, or the requirement for “comfortable space, the important thing is that regardless of its age, if a building can satisfy the requirements of a multitude of people who live in that age, the building will continue to exist into the future.”⁸

This kind of built environment is not only important in order to continue the real life in present day. It can further extend into the past as well. We all know material artifacts can remind us of our past achievements, relationships, etc, and become concrete manifestations of our personal biography. In other words, they can become extensions of ourselves. Due to the emotions, these artifacts function as our external memories. They assure us of the persistence of our identity and integrity of our being over time. To this extent, the emotional quality of existing buildings and their environment holds the identity and integrity of the historic city. Therefore, we need to think of how design can develop a strong emotional

⁸ Okada, Tsuneo. “Pursuit of Creation of Sustainable Architectural Space.” *JR East Technical Review* No.4 2003: 3
<http://www.jreast.co.jp/e/development/tech/pdf_4/Tech-no.4-02-03.pdf>

attachment between an audience and its physical structures and environments. Historic Preservation is a good approach because the existing structures and environment will play some part in memorable events of our past and these memories are important members of historic cities and our society. On the other hand, contemporary constructions play another significant role in our design, because they satisfy current life style and living standard needs, while themselves becoming a new historic layer in the future.

The Emotional Space truly provides a guide to reconstruction or expansion projects in historic cities. The most important aspect is it maximally ensures the highest and best values of historic preservation, especially if it plays a role in the ongoing planning process. The reconstruction work of Ralph Walker's great New York Telephone Building at the corner of Vesey and West Streets just north of the World Trade Center, which was badly damaged on September 11th. It will be restored rather than demolished, although plans there are not yet final. The reason to restore instead of demolishing the building is because it is a symbol of the expression of emotions from the entire American country. Such a strong quality of emotions contributes to a historic building transcending its role as an artifact and coming alive in a new and meaningful way in the present time. This ensures the timelessness of the structure, the environment, the place and the country.

Historic Preservation supports maintaining emotional space. Historic buildings and their related environment not only create a sense of identity and affiliation but also provoke a sense of wonder and sometimes remoteness (this may be caused by lacking human activities on site). These senses ensure the building of intimate communications between physical structures and human beings. Historic preservation can continue the local traditional living and social style by preserving old buildings and historic districts. From a long-term perspective, this work makes it possible for visitors to experience cultural diversity. One can perceive different traditions and living stories from those buildings that remain, be-

cause all historic buildings and environment deliver visible expressions of past events and thereby provide a link with them. More than being the representation of the past, historic structures physically express the changing ideas over time, as well as the happiness, proud, tribulation, thriving and prosperous of cities.

Maintaining and Enhancing Emotional Spaces

Preserving the quality of a historic place does not necessarily mean an exact restoration of the original architecture. If we demolish an old building and reconstruct a totally isolated architectural object, both the site and the new architecture can become a meaningless fragment in the historic district. They would no longer be an organic part of the whole area, and thus they would not serve the purpose of preserving the old. Therefore, the new construction or expansion parts of historic sites should be treated as an environmental element that has to be naturally integrated with the existing environment. In doing so, it can help form a coherent entity, not only in function, but also in visual effects based upon similarity of scale, design, color, setting, workmanship, or materials. Thus, this coherent character is deemed to add significantly to the value and attractiveness of properties within the area.

Preservation and enhancement of the soul/spirit that still exists around the historic area is a key issue. There are two classical approaches when something new is to be constructed on the historic site. One is to replicate and reconstruct the past, and the other is to impose a completely new order. However, neither of them can really continue the emotions of the place. It is necessary to create a meaningful dialogue and association between a new, contemporary building and its historical environment, because the powerful presence of a building should come from its being an integrated part of the environment through time. Such an intimate and organic integration should not only be achieved physically, but also in spirit or emotionally.

Chapter 6 Chinese Museum Architecture

The history of Chinese museums is only a hundred years old. The first Chinese museum was supported by the scholar Zhang Qian in 1905. In 1912, the first public museum, the Preparation Institution of History Museum¹, was set up in China by the Beijing Guozijian.² In 1914, China had its first museum open to the public, the Antique Exhibition Gallery in Beijing.³ Few museums, museum professionals and museum studies appeared in China during the first half of the 20th century. Before the Chinese liberation in 1949, there were only about 20 to 35 museums through the country.⁴

The mid and late 1960s saw the boom of museum construction in most Chinese cities. The museum-building trend started after the Chinese government's encouragement of economical and cultural construction activities. By 1984, about 700 museums had been set up in China.⁵ Like other contemporary buildings constructed between 1960s and 1990s, museum architecture mainly served political purposes. The construction of museums was mandated by the government, because it wanted museums to become places for public education. All museums during this period had only one purpose: To create an educational venue for Chinese history and revolution. Both museum and museum architecture needed to present the great exploits of Chinese revolutionary history and show the arduous journey that had led to liberation. Therefore, the theme for Chinese museums in this period was completely dominated by the history of revolution.

This boom in museum construction reflected this educational theme and all museums' physical characteristics corresponded to serve this specific purpose. The architectural style

¹ This is the former of Chinese History Museum. Since 2004, the Chinese History Museum and the Chinese Revolution Museum will be united as the National Museum of China.

² Guozijian: the Imperial College, the highest educational administration in feudal China.

³ Travel in Beijing. 2/3/2005 <www.oldbj.com/seebj/travel/travel00072.htm>

⁴ Cheng Zhisui. "Huainan needs Museum." 2/3/2005 <<http://zx.huainan.gov.cn/sqmy/8.htm>>

⁵ Wu Zeseng. "The Discussion of Museum, Ethnological Museum and Nationalities Museum." 1985. 2/3/2005 <www.scuec.edu.cn/bowuguan/bwg/gtgk/gtgk3.htm>

of Beijing museums became especially popularized all over the country with the concept of learning everything from the Chinese political center, Beijing. This museum style was reproduced throughout China and was constructed in a traditional Chinese style with raised pavilions and overlapping eaves. At that time, people believed this kind of building not only manifested the ingenuity and originality of the Chinese people but also delivered the world the message that China had been liberated. Many museums constructed at that specific time were designed with similar features, including façades, space, volume, and details, as government buildings. The usage of the museum space was more educationally oriented. In a word, museum architecture represents a political symbol and the construction of museums was a political activity rather than a cultural and social activity. This bureaucratic style distances museums themselves from the public's daily life

Besides being constructed on new sites, some museums were located within traditional private mansions. Although these mansions represented powers that needed to be expunged by the Chinese government at that time, their historical and cultural value was recognized by local governments. Therefore, changing the mansions from residences into exhibition halls was an appropriate approach for the government to take. Generally, the existing mansion structure was completely retained, while only the space within the buildings was used and renewed for the purposes of exhibition.

One characteristic of Chinese museum architecture of that period was that both newly constructed museums and those museums located in private mansions were not specifically designed for the purpose of exhibition. Master designers used similar design ideas and technologies for museum architecture as in other building types and there was little creativity. There was political orientation and extreme social control to limit the Chinese designers' creations. While Western architecture was entering into the modern architecture period, Chinese architects were still framed by the traditional building and construction

theories of the feudalistic era. They thought, designed, and built in their own set ways.

Hence, the public's primary impression of museums was that they were solely places to store and preserve antiques and treasures. For museum curators, museums were intended to provide places for academic research. Therefore, curators usually provided descriptions and interpretations in highly technical terms. In some museums, the commentaries of displayed pieces were even introduced in traditional Chinese literature, which blocked the public's access to that information. People respected museums, but at the same time they couldn't enjoy them because both the objects displayed in museums and the information delivered by museums were too hard to understand in terms of the limited education level of the public.⁶

This particular period endowed Chinese museums and museum architecture with distinctive characteristics and features that were totally different from western museum conceptions, generating a distinctive museum culture in China.

1. Earlier Chinese museum architecture ineffectively served the users and audience. Most local museums were housed in existing buildings. These museums were restricted by limited space and outdated infrastructure. Some designs were specifically intended to create more museum space. However, the simplified design made the new space hard to satisfy the functions and purposes of the museums.
2. The utilization of museum space concentrated on exhibition, education, and storage, while at the same time they ignored museums' cultural and social functions as public spaces.
3. Museum managers failed to recognize their responsibility to maintain and preserve on site valuable buildings and historical environments when museums reused existing buildings/mansions. New additions were in-discretionarily inserted into the

⁶ Before the liberation, most Chinese people never had the chance to receive an education, especially the peasants and workers.

original plan little to no consideration of preserving the existing structures and environments.

4. The poor exhibition designs failed to connect the usages of building space with the visitors' experience. All exhibited objects were simply "placed" on tables or shelves just like they are in an antique store. Instead of designing specific exhibition galleries for the general public, the design considered little on visitors' interests and tastes.

At the end of the twentieth century, economic development dominated Chinese society. The "open door" policy sped the growth of the Chinese economy. The public not only reacted with satisfaction with this materialized life, but also developed more varied spiritual and cultural needs. Chinese people began to expect that museums could be more humanistic spaces that serve social, cultural and entertainment functions. Especially for those who had access to museums worldwide through TV, magazines, internet, movies, and trips, more were expected of their own museums. Meanwhile, the features and characteristics of the older "governmental" style of museum design still governed the development of Chinese museum architecture. The public's perceptions of museums were still limited by the old image of Chinese museum architecture.

Chinese museum architecture was ignored by the public for a long time. During traveling peak seasons, domestic and international tourists filled all the tourism destination of China except for museums. Museums were still excluded from the hot tourism market. It seems that the public showed little interest in museums due to the old image of Chinese museums. Recently, the topic of museum architecture was picked up by the media and the heat of Chinese tourism industry to meet the needs of the public. A new boom in museum construction activities began. Many new museum construction and redevelopment plans were part of the construction party throughout the country. However, a dangerous trend in

most museum projects could be observed in some Chinese cities. A few of the new museum constructions concentrated too much on the purposes of attracting tourism and enhancing local economies. They did little to no serious museum research or preservation of on-site historical structures and environments.

The Chinese history of dynasty changes also influenced how Chinese people regarded and treated the historical remains of previous cultures. Books, sculptures, and buildings were usually employed by different governments in China over the centuries to control people. When a new dynasty replaced the old one, new governors would usually burn relic of the former dynasty's culture to remove the former ruler's silhouette from history and solidify their new power. This attitude leads the ignorance to the importance of valuable historical environments and local cultures while taking on new museum projects with deconstruction and demolition activities, which makes new structures incoherent to existing cities context. Moreover, most of the museums designs were divorced from the local citizens' daily lives.

The disappearance of historical remains and traditional living spaces as a result of new museum constructions also is caused by the history of China. China has experienced wars and social changes for over 2500 years. Before the "Open Door" policy, most Chinese struggled in a poor and unstable social environment. Suffering for 2500 years, the Chinese nation really led poor and unstable lives. Psychologically, historical remains were regarded by most Chinese as symbols of the poor condition; they carried too many negative images and bad memories for most Chinese. New buildings and new city environments symbolized a rich and stable life to them. Less educated Chinese and those in unstable and poor social environments welcomed the totally new replacement movements in Chinese cities. To many Chinese, historical remains and traditional living environments did not represent a successful future but a poor past.

Chapter 7 Case Study

Extension of the Canova Plaster Cast Gallery (The Gipsoteca Canova Museum), Possagno, Treviso, Italy, 1955-1957

Architect: Carlo Scarpa

In 1955, to prepare for the 200th anniversary of the birth of the sculptor Antonio Canova, the architect Scarpa was commissioned by the Superintendent of Fine Arts of Venice to carry out the extension work for the Canova Plaster Cast Gallery, as well as to reposition overcrowded museum collections. Designed by the architect Francesco Lazzari, the original 1830s basilica exhibition hall was located next to Canova's house in Possagno, northwest of Treviso. The site for the additional part is only a narrow strip of land between one side of the existing building and the small-scale street. This extension work truly shows the architect's intricate design skills on intervening with history and the existing structures, as well as balancing historic preservation with the museum's new development. Moreover, it creates a space to allow audience to echo with to the existing museum, the collections and the environment: elegance, stillness, intimacy, and simplicity. Hence, all can enjoy stories of the artist, the art, and the small town.

A simple L-shaped extension was added to respect the site environment and the existing museum structure. It consists of three small volumes, an irregular rectangle gallery, a high cubic gallery, and a long wedged-shape gallery. "The shorter segment of the L is attached to the old museum, forming the roughly rectangular gallery along with the cubic high gallery. The longer stretch of the L is slightly offset from the side of the museum building, running parallel to the larger structure, downwards towards the boundary of the site, and forming an elongated wedge-shaped gallery."¹ The new additions, with undersized space and low-ly-

¹ Carmel-Arthur, Judith & Buzas, Stefan. "Canova and Scarpa in Possagno." *Four Museums*. Stuttgart : Edition Axel

ing volumes, present a humble position to the large scale basilica-like building. Regarding itself as the younger generation, the new allows this historic building to keep its domination on the site, which matches the new with the fabric of the small town of Possagno.

However, Scarpa's extension work does not just focus on preserving the historic building, but illuminates his relationship to history. "His dialogue is never with the past, but with the presence of the past in the present, with the fabric around him, with 'continuity', and most frequently with the specific continuities of Venice and the Veneto."² The existing basilica-like building is employed as a reference for the new parts, which facilitates the delivery of the conception of "continuity" of the artist's work, the museum, as well as the town. Such a reference provides spectators with a full understanding of the entire museum development process. Based on this conception, Scarpa generates an emotional space running through both the existing and new structures. This space ensures the spiritual transition contained in the museum's regeneration, delivering the image of a living museum to visitors.

Scarpa understood that he faced two conflicting demands. On the one hand, the new addition must coexist with the historic fabric on the site and current life of the small town. On the other hand, it must manifest itself in a structure commemorating the work and life of the artist. Therefore, before addressing the emotional space as one approach to establish a sense of the continuity, Scarpa reads on this museum architecture, as well as the artist, and the collections thoughtfully and comprehensively. He believed this was a pre-requirement for successful space design work. This museum was used to house plaster models and terracotta bozzetti after Canova's death. Scarpa observed that this museum was not only a place to exhibit Canova's many original plaster casts, but also a stage to tell stories of the artist from his birth, through life, to his death. The work of understanding casts is more than reading. The architect used a deep conversation, through which he heard tales of figures, as

Menges, 2004: 13

² Olsberg, Nicholas. "Introduction." *Carlo Scarpa Architect—Intervening with History*. Canadian Centre for Architecture, The Monacelli Press, 1999: 15

well as their delivering different phases of the artist's life and his art exploration process.

These observations set a real stage for Scarpa to form the emotional space. This spiritual space integrates the past, present and future context. At the same time, being a messenger, it allows spectators to reach the soul of Canova's art pieces and communicate with the artist Canova himself through his works. His design ensures visitors to see, to perceive, to hear the history of this museum and the artist.

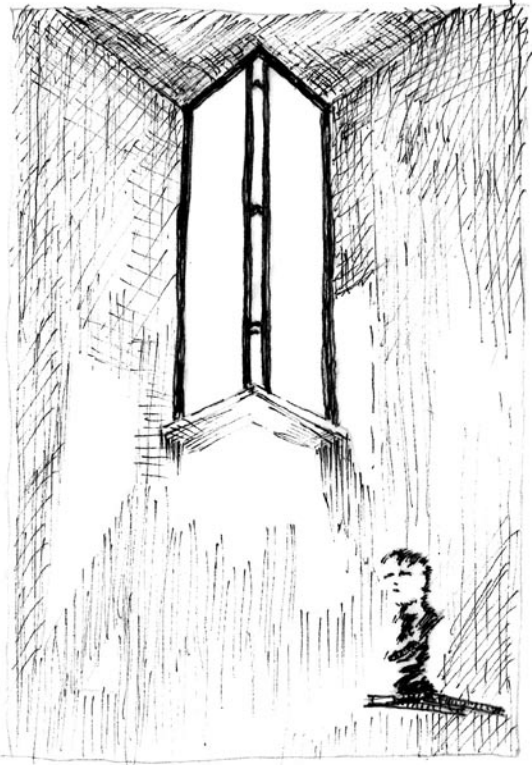
Elegance and simplicity of the existing space is the first thing that the design wants to deliver for: European art culture by using light and space to create the public sphere and experiencing the sculpture as an individual artifact. The space of new additions continues this feeling of the Basilica-like gallery. For instance, the arrangement of the long gallery in an offset position to the one side of the rectangular building, gives visitors a clear route. Lighting is also an important element to create a qualified art environment, because it embraces a serene and noble setting for experiencing sculptures. The main purpose for the setting of these figures is not for display; rather, it is to convey to spectators a sense of the transcendent. Therefore, the museum here has become a sculpture temple where visitors can breathe and bathe in.

In the gallery's extension, the architect illuminates the space with innovatively designed light sources instead of applying traditional skylights. "For Scarpa, the changing shape of light creates the shape of things. Shifting intensities of volume, mass, texture and color are dependent upon the resonances of light, and materiality is achieved alongside the ephemeral and the transparent."³ Four glass rectangles were designed on each upper corner in the cubic addition, with two longer cubic windows in one pair and the other two smaller cubic windows in another pair. This creative design device allows the Italian sky to evolve into

³ Carmel-Arthur, Judith & Buzas, Stefan. "Canova and Scarpa in Possagno." *Four Museums*. Stuttgart : Edition Axel Menges, 2004: 11

the exhibition space, contributing to the expression and emotions of the sky to the new gallery. It allows the intimacy between audience, architecture and nature.

At the same time, the design of these four unique rectangles also presents the new life of addition that differs from the past. These windows capture changeable and colorful sky fragments on the white gallery walls, activating the monotone atmosphere. They bring in diverse natural light and climatic conditions (such as snow, rain, and seasonal change), which produces a change of spatial emotions within the new galleries. This



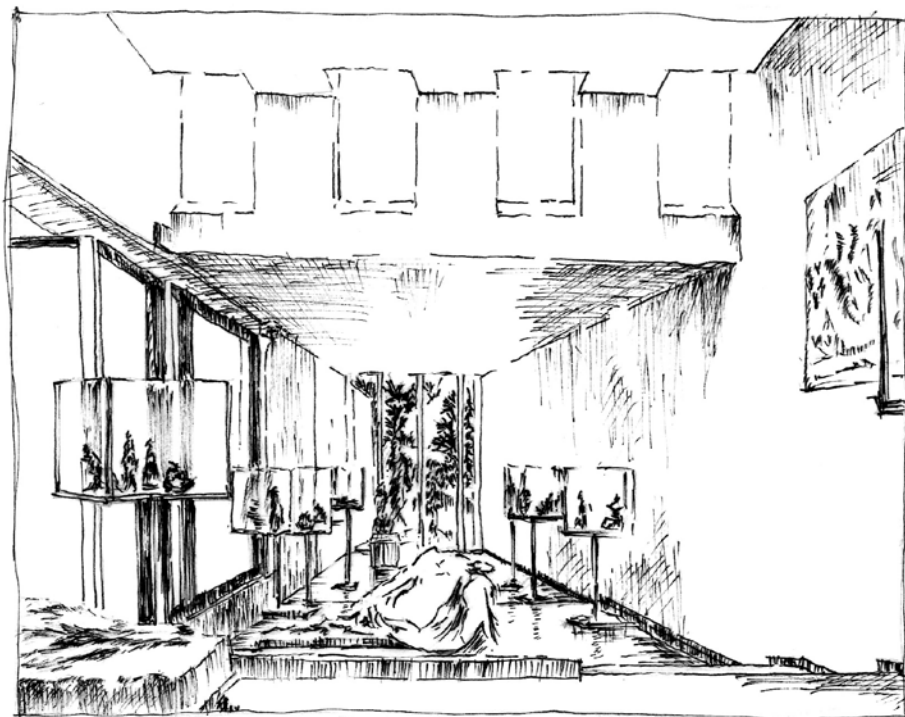
The Corner Glass Rectangle for Lighting

new light source delivers a feeling of contemporary lyrical movement to the museum, contrasting with the traditional and still atmosphere created by the small skylight in the existing gallery. With this feeling surrounding the new galleries, Scarpa effectively empowers the notion of time and transformation to visitors, calling both visitors and collections back into the present.

Another emotional place can be found at the end of the wedge-shaped gallery. Scarpa designed an entire glass window-wall after long and solid side-walls. This window wall provides more open space to let light dance with collections in the new addition, and enhances the feature of the publicity. From this window, a lovely side courtyard can be caught by eyes, as well as part of the historic town at far side. The long path eliminates the harsh light-and-dark contrast created by the huge opening. It leads to a gradual change in the lighting environment of this gallery. The window-wall, together with the long path, not only gener-

ates a soft illumination and shadow around the plaster surface, but also shifts the museum space from a traditional and closed feeling an open and springy enjoyment, allowing visitors to interactive with nature and surroundings. The interesting thing is the architect did not stop visitors' emotions here. "With Scarpa, the window is a vehicle through which to examine an architectural fragment, illuminating a different space, a different time, an earlier part of the same narrative. The new offers a telescopic view of the old, and architecture in Scarpa's hands has ceased to be in any way dispassionate."⁴ This window-wall further acts as a time transportation terminal. By catching a view of the 18th-century building, it extends visitors' imagination and thoughts back to the earlier period from the present time. Such cycled emotional changes generate spiritual transitions among physical structures to carry the old to the new, then back to the old. Finally, the emotional space, formed by light sources, builds a circularity of time.

These new light sources indicate a significant change: From using windowless walls to



Window Wall Viweing Courtyard

⁴ Carmel-Arthur, Judith & Buzas, Stefan. "Canova and Scarpa in Possagno." *Four Museums*. Stuttgart : Edition Axel Menges, 2004: 14

form an art place to employing modern window-walls to present the world of art. The new light setting helps to release spectators' emotional engagements from the contained space to the natural environment beyond and the historic town. The liberation of emotional engagements improves the spiritual dialogue among the natural environment, the historical context, the collections, and the visitors. Therefore, the thoughts and enjoyment that are solely related to Canova's art antiques and creation work were extended to the additional appreciation of both the town culture and the current life of Venice. This change moves spectators' experience from the historical space to contemporary and real-life settings.

Besides above feelings, Scarpa also continued the softness and gentleness in the addition. A row of female busts and a golden-colored roof light was introduced to establish a soft and gentle spatial emotion in the rectangle volume located at the central point where all four spaces (three additional spaces and one existing space) meet. This emotion effectively mitigates the friction between existing and new spaces.

Moreover, audience can experience a time movement from the design. The tall cubic gallery, being ahead of the rectangle gallery, increases the height of space within the museum; while the long wedge-shaped gallery, stepping down along the terrain on the left of the rectangle volume, lowers the inner space level. Scarpa's design establishes multiple spatial patterns in the extension: Low and high space, shallowness and depth, constant and gradually changeable illuminations. These variable patterns deliver a sense of movement to the museum. This again produces a contrast to the lofty basilica space, in where the same pattern of divided exhibition sectors results in the well-ordered and monochromatic rhythm. When regarding the existing monochromatic space as the insightful past, the architect metaphors new galleries as the variable movement of present and future life.

“To some extent, Scarpa's approach was also an attempt to de-mystify the traditionally

reticent museum environment and to provoke a more aware response to the continuum of aesthetic possibilities—past and present—inherent in so many museum settings.”⁵ The changeable emotional space throughout all four spaces establishes a consistent spirit of the museum: The theme of past, present and future. It allows Scarpa to find the harmony for the coherence and unity of forms, as well as the change and various tunes of modern time in physical structures.

The emotional space, embraced by space and light, delivers an intrinsic sense of intimacy to spectators, because it sets an interactive and communicable art place for them to exploit each sculpture piece and architectural environment. Moreover, this emotional and spiritual environment maximally offers an artistic narrative. This narrative encourages a paced and thoughtful journey through the galleries.

The emotional space bridges the physical surviving buildings and the new additions. It allows for the consistency of visitors’ appreciation to collections wherever they are wandering in the existing basilica hall or in the extension parts. The story-telling of the place, the collections, and the artist, always runs smoothly from the past, through the present, to the future. Such continuity unintentionally makes additions naturally grow out of the original buildings and existing context, although the architect was not required to preserve anything on site.

The American architect Louis Kahn used to ask the question before he began to design a building, “What does the building want to be?” He believed that all buildings had intrinsic spiritual functions that transcended the circumstantial and local requirements of the site, construction technology, and the owner’s purpose. “The spirit of a building was timeless; once the architect discovered this poetic inner essence, the rest was easy.”⁶ Thus, through

⁵ Bid, P. 12

⁶ Rybczynski, Witold. A Place for Art—The architecture of the National Gallery of Canada. National Gallery of Canada, Ottawa, 1993: 17

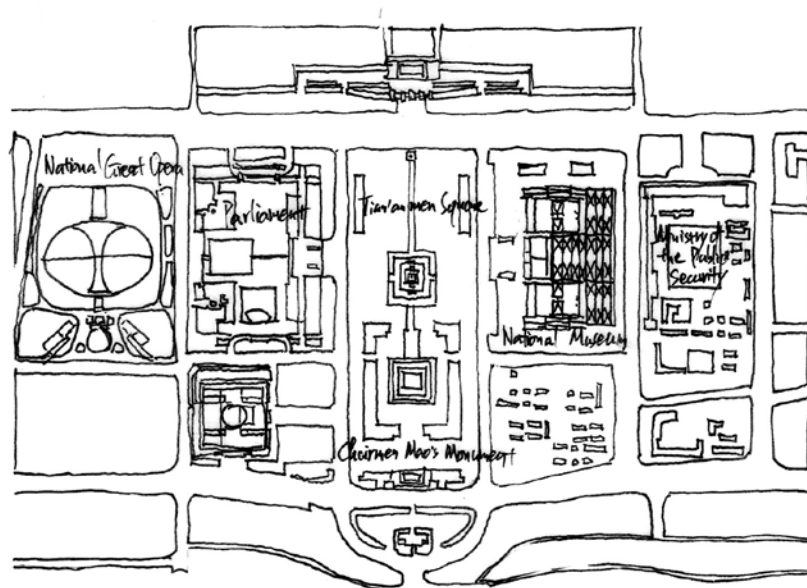
the innovatively physical design work, the architect achieves an emotional space that contains the inner spirit, the change and the continuity of the museum. This product contains lucid thoughts, which touches and moves all spectators' heart. This emotional space does not draw attention to itself for those exaggerated features, but to its inner modest energy. This makes the museum successfully structure itself in the context of the past, the present and the future, while providing with an artistic environment to allow variable conservations in galleries.

The Schematic Design of the Competition of Reconstruction and Extension of the State Museum, Beijing, China, 2003-2004

Architect(s): Norman Foster (Beijing Design Institution)

The State Museum of China consists of two old museums: The State Revolutionary Museum and the State History Museum. Both museums were built from 1958 to 1959, to celebrate the 10th anniversary of the National Day. They were designed in a style combining western classical museum architecture with traditional Chinese architectural elements: neo-classic façades with European columns and central public stairs, a symmetrical layout with two axes, Chinese-style roofs, and traditional Chinese courtyards. These two old museums, standing abreast at the east side of the Tiananmen Square, are connected from the North-South direction by an inner square and two courtyards. This arrangement allows the creating of a comparable volume and a similar site layout that echo with the People's Great Hall opposite. To date, it remains one of the most significant parts in the Tiananmen Square context. The State Museum was built at an age of signature architecture in Chinese history, when the stylistic principles of political symbolism were prevalent at the time. This is readily apparent in its historical

location, formal aspects, gigantic volumes, and decorative elements. Therefore, the buildings of the State Museum are more than a functionally culture and history collection, exhibition, and preservation



Map of the Location of the State Museum

place. The goal of the museum presents audience message of the hardly journey of Chinese history, indicating the spirit and soul of China, as well as a promising future.

Aiming the specific museum goal, this schematic design unfortunately failed to deliver such experimental and emotional connections among museum space, contents and audience. The new addition is hard to tell the audience the story. No doubt, the architect carefully handled the addition relating to the existing historical context. The design succeeds in emphasizing on how the new buildings intervened in the existing urban context, as well as in its sensitive and formal location.

Foster captures the inner spirit and spatial characters from the original museum design, an orderly spatial consequence achieved through axes and courtyards. These can be recognized as the most significant elements of the spatial organization in traditional Chinese architecture. His enormous respect for the former builders' conception led him to further retain and reuse two existing axes: The central square, and two courtyards of old museums. "This admiration of history here goes beyond the preservation on existing physical structures. It focuses on the awareness of the old museum's spatial form and relationship."⁷ To preserve the existing square and courtyards completely, and to avoid new buildings that directly confront the Tiananmen Square, Foster set the new extension on the eastern side of the site. This position ensured new additions could be hidden behind two existing wings and the original western façade facing the Tiananmen Square. Therefore, the design reduced the impact of the new extension on the museum's historical settings.

Being aware of this existing spatial consequence and the inner order, the rear position of the new gallery building enriches and redefines the horizontal spatial levels along the central east-west axis. A clearly spatial sequence was generated in this direction. It starts

⁷ Shao, Weiping and Liu, Yuguang. "Searching for the memory in history: review of the schematic design of the reconstruction and extension of the State Museum." Archicreation. December, 2004: 46

from the existing western façade, through the courtyard, and ends at the eastern new wing. Hence, the prominent role of the central east-west axis resurged. Moreover, both the new building and the central east-west axis helped produce a spatial drama in the new State Museum. The architect employed one theme repeatedly along this axis. He replicated the architectural element and the stairs on the western façade in the square. These new stairs create a rising movement toward the third floor of the new gallery wing. Such a movement, from east to west, from bottom up, from the forefront facade to the rear of the museum, evokes a change of the spatial order. This ascending order of such a rhetorical intensity drives emotions into the culmination.

The change of spatial emotions indicates a shift of time and space. Foster metaphors this central axis as a time channel that connects history, the Tiananmen Square, and realism and modernity, to the new gallery wing... At the apex of spatial emotions, Foster employed a public terrace as the end of this climax. This terrace also provides a large opening facing the Tiananmen Square, which allows possible emotions from the audience to echo with the spectacular and grandiose Tiananmen Square. In addition, this design approach draws one's eyes, imaginations, and emotions from the modern space back to the historical context. Therefore, the location of the extension in the rear of the museum, the redeveloped role of the central east-west axis, and the reorganization of spatial consequence, intensify visitors' understanding of space and time. Emotions, formed by the above physical design approaches, soak the visitors' mind precisely and unconsciously, facilitating her access to space and time. Upon experiencing the spatial consequence and layers of spatial levels, one can fully appreciate Foster's role as a designer.

The careful position of the new extension in Foster's innovative design also indicates that the architect's consideration on the museum's relations to its historical settings. Both the extended stairs and the new east-west central axis help to establish the new extension's re-

lationship with Tiananmen Square, because both of them are situated on the east-west axis of the Tiananmen Square layout. The two overlapped axes ensure physical and spiritual links between the two spaces: The museum space and the Tiananmen Square space. Therefore, stairs, in terms of their positions along these two axes, become connectors which carry the message into and out of the museum. Through these connectors, the new and the old, and the modern and the traditional meet along the two axes. Moreover, the new part of the museum, being the climax of the spatial sequence of the State Museum, also takes the same role as the spatial sequence of Tiananmen Square due to its special location. The western facades can be regarded as a time gateway to be passed through and the two axes as the passage between the historical settings and the new extension. According to them, visitors can experience not only a spatial change from the exterior to the interior, but also a time change from the past to the contemporary. By capturing the historical characteristics of the location, Foster not only enhanced the quality of the existing space, but also allowed the addition to reach out to the 15th Century Tiananmen Square, creating a time scheme on existing site.

These design elements carefully handled the new relating to the existing historic context by re-employing old museum architectural elements and generating the new spatial vocabulary. The new State Museum engages in a dialogue with the powerful remnants of Tiananmen Square through the new roof color, space, axes, and volume. However, a history and revolutionary museum is a mirror. It should guide visitors to explore, perceive and learn from the heavy past, and to further think of the present and the future. Unfortunately, Foster's design does not consider on how to conduct the audience to experience this core idea of the museum.

Furthermore, the façade of the new gallery wing seems another false point in the design work. Obviously, the new and high-tech eastern facade lacks any relationship with the

three original facades. In no way, there are connections. Foster's design doesn't present a sequence of change from three existing facades to the new one. Therefore, the new and old ones cannot be read as a series. Although the intervention created a powerful juxtaposition of the old and the new, it failed to help the new gallery wing exist comfortably alongside the old wings. The new building doesn't answer this question: What should the architecture look like? "The new architecture could well be intrusive, detract from interest in the historical remains, get in the way. The observer could find the new architecture more interesting than the history. It is necessary to generate the design of the new building from the historic remains... The new architecture needs to be seen to belong to the site. It should be simple, carefully edited in its detailing, and well crafted."⁸ In the new extension building, Foster's detailing design created nothing about the connection, the continuity, and the transition elements between the old and the new. They simply conveyed a global character of contemporary architecture in the extension part. Without a commitment to the existing structures, the design of the new gallery wing delivers an image of a commercial transportation terminal, not the offspring of the existing museum and the historic city.

This case study shows that the museum design should have a careful research and consideration on museum's core idea: What of story does this museum want to tell? How to ensure the audience to perceive and experience the museum's inner world? Depending on this understanding, one can use design as the means to reach the goal. Moreover, details in design are the key to send right information effectively and correctly.

⁸ Strike, James. Architecture in Conservation: Managing Development at Historic Sites. London and New York: Routledge. 1994: 76

Jewish Museum Berlin, Berlin, German, 1999

Architect: Daniel Libeskind

The Jewish Museum Berlin was designed by American architect Daniel Libeskind. It was quite distinctively from other museums, because this museum does not solely reflect its functional needs, but it rather creates spaces that tell the story of the Jewish people in German. The core idea of this Jewish Museum rising in what was the capital of the Third Reich is loaded with historical echo and emotional ambivalence. This museum was created in a unique and experimental architectural form that employs a complex symbolism that can evoke specific emotional responses from visitors. The architecture suggests the journey of all Germany's Jews through the horrors of the Holocaust by the design of a floor plan that follows the shape of an unwounded Star of David.

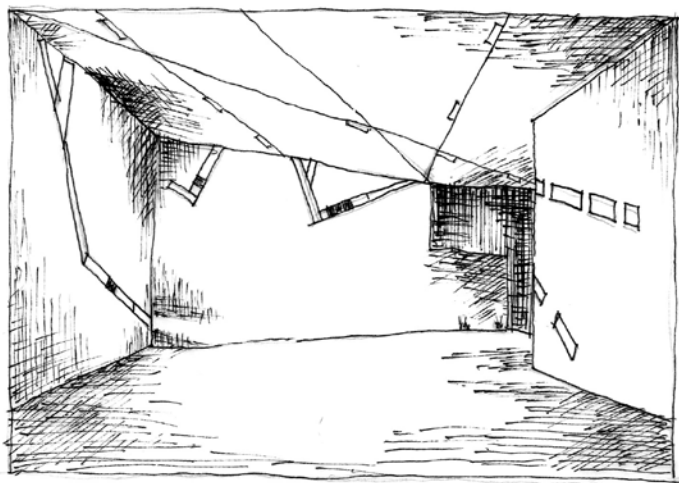
Within the building, the architect created what he calls underground "streets". Each street leads to a different part of the complex and each is carefully reasoned as to both the practical and the symbolic purposes of the structures. One street leads to the interior of a free-standing tower (the lighter-colored structure toward the left in the top photo), a memorial that Libeskind calls the "Holocaust Void". Entering this space, the heavy door closes with a menacing thud. This gives the experience of an instant sense of confinement. The sloped floor has a rough finish, creating a sound like scraping sandpaper when visitors walk on it. The acoustics amplify sound, which bounces off the towering, hard surfaces of the angled walls, windowless but for one vertical strip, where light penetrates high up near the top of the structure. It is a space calculated to evoke a disturbing disorientation and an emotional response.

Another Libeskind's street leads to an outdoor garden on a subterranean level. This garden

is called the E.T.A. Hoffmann Garden, which represents the exile and emigration of Jews from Germany. It is an enclosed concrete space with a 7x7 square of 49 massive pillars. Each is a planter holding at the top a willow oak tree. All but one of the pillars contains German soil; the other contains soil from Israel. Once again, the below-ground base of the garden combined with the closeness of the pillars and the raked angle of the floor forces shifts of perception; this is architecture that denies the possibility of a passive response.

The design of this museum not only allows people to trace and memorize the history of German-Jewish from Roman times to the present, but also indicates a prospective future to all Germany's Jews. Libeskind's most important street leads to a steep stairway, climbing up to the exhibition spaces. Due to the steepness, it looks like an endless stair from the basement level at its base; from the top where the last steps lead to a dead-end wall, looking down, the steps disappear from view - there seems no turning back for visitors, indicating the motivity for German's Jews to keep going forward on the zigzag road. Moreover, there are two Holocaust oriented structures that effectively sit within the museum. They are secondary to the principal purpose of the building - a museum with a forward-looking perspective. The design is based on the consideration of reflection on the past, paves the way to a more promising future.

The series of exhibition rooms on different floors surround empty courtyard-type spaces that the architect calls Voids, "embodiments of absence". Sixty bridges criss-cross the voids, connecting the rooms. This creates a sculptural quality of architecture. Here all



Lined Windows in the Exhibition Room

lines, spaces, and forms combine into a satisfying composition. This complicated composition, together with the twist museum plan, implies the tough and bloody history of Jewish. The exterior walls are sliced with irregularly placed windows, some of which are linear, while some of geometric shape. These irregular and lined windows suggest the little lighting and hope for the whole Jews. According to the design, one can experience the hardest road that all Jews ever came through. But, those small and lined windows on the walls indicate the audience that the lighting and hope will never vanish in the hardship. A promising future is not far away, although the zigzag condition makes the road looks like disappear at the far side.

This museum is full of deliberately, tangibly dramatic effects aimed at disorientation. At the same time, the composition is so powerfully controlled and balanced that it provides a counterpoint, an immensely satisfying sensation of aesthetic “rightness”. It functions emotionally, intellectually, and spiritually all at once, as great art always does. The Jewish Museum is a triumph and all emotional designs here resonate with all public audiences, Jews and non-Jews alike, for Berliners, and for visitors from the world over.

The New Staatsgalerie Stuttgart, Stuttgart, German, 1977/1983

Architect(s): James Stirling and Michael Wilford

In 1977, the architect James Stirling was invited to a competition for an extension of the Staatsgalerie Museum. The location of the new addition sits just next to the original Staatsgalerie, which is surrounded by the modest scale town fabric and buildings. Under the priority requirement to ensure the intervention had the least impact on the entire town environment and to co-ordinate with the area's traditional character, Stirling proposed a monumental style design that combines both high-tech and traditional architectural elements instead of the functional architecture at that time. He emphasized both the urban design quality and the architectural quality in this project. "Stirling becomes bored. This happens to him in social circumstances, and certainly in architectural circumstances. So the design of a very large building such as this reflects his reaction to several layers or scales of boredom... The planning diagram is almost out of Neufert. And then he begins to create the town."⁹ The architect applied with a renovated organization in forms, shapes, and open spaces to ensure the new building sustain the urban existence and narrate the classic architecture style in his own language. At the same time, his innovative language generates a friend and welcome atmosphere to audience and existing historical context. Thus, the design is successful to weave the new museum into the current Stuttgart.

Stirling never framed his design concepts within the priority requirement. The new Staatsgalerie is neither classic and traditional, nor modernized and functional. The conceptually new approaches allow the new museum to tell everyone, "I'm just here to be myself." It stays far away from other extension projects on historic sites that always softened and blended new themselves into existing public space. But, although this statement makes the new building stands like a classical castle, it does not hide a humane expression to people

⁹ P. Cook. Architectural Review, March 1983.

and intimately historical settings.

The most important and amazing aspect of all of Stirling's work is that this new complex still delivers to the audience the message that she belonged to this townscape, and is descended from the old Staatsgalerie, as well as the traditional museum architecture.

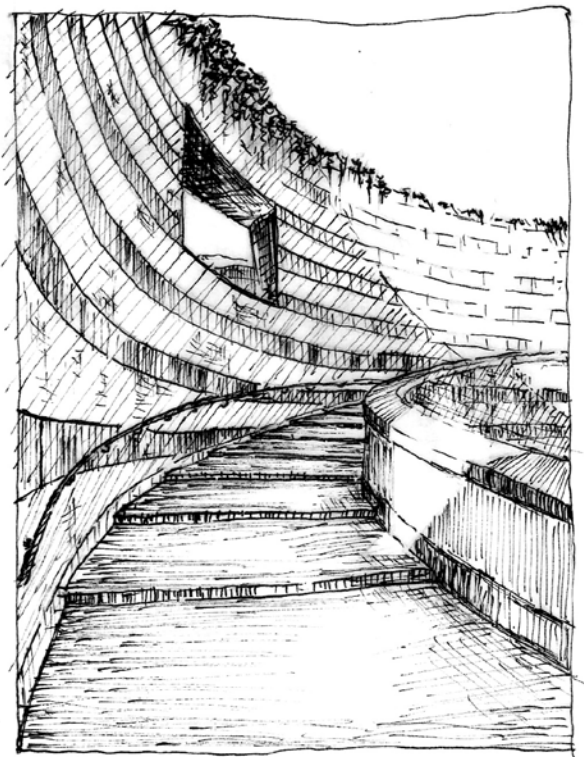
Stirling carefully managed relationships between the extension and its neighborhood--the old gallery and three nearby streets--in a discreet manner. "He rejects the unrelated, isolated building in favor of an architecture which continues and reflects an urban texture, taking as a starting point a close examination of the topographical conditions which are then mirrored in the various parts of the building."¹⁰ The new building generated a layout in a U-shaped gallery wing and a circular courtyard in the center of the museum. This layout responds to and continues with the layout characters of the old neo-classical museum whose layout is in a H-shape, with a semi-circular drive at the main entrance. The wing containing a studio theater, standing at the southeast corner of the site, imitates one quarter of the old wings in style, shape, volume, and scale. The façades of the theater wing also replicate window shapes and sizes from existing buildings nearby. The location of this wing and the similar details between the old and the new extended the nearby districts fabric and form. Two piano-shaped buildings and one wave-shaped administrative building were arranged individually along three streets, which provide the contrast to and the comparison with surrounding cubic structures and square facades. By doing so, they generate a new movement and life in the three street-facades. Moreover, they were designed as functional elements, and together with rows of trees on the southern edge, block the street noise from the gallery spaces.

But Stirling's in genius invention goes beyond his governing ability to build relationships

¹⁰ Rodiek, Thorsten; Barker, Ilse (English translation). James Stirling--The New Staatsgalerie Stuttgart. Stuttgart: Verlag Gerd Hatje, 1984: 1

within the existing context. It also lies in how he employed and managed those modern but renovated design elements so that the museum speaks in new but friendly. The most fantastic renovation is that he cited a plethora of historic architectural elements from the traditional museum architecture. These elements become part of the “being self” statement that conveys to the audience the occupation of the new building. “I hope this building will evoke an association of Museum and I’d like the visitor to feel it ‘looks like a museum.’ In its built details it may combine traditional and new elements though old elements are used in a modern way...”¹¹ His focus is not on reusing traditional museum architectural elements, but on developing them into new languages to fit the present time and the new environment.

Then, he moved the heart of the traditional museum, the domed pantheon, from the indoor circular hall into the outdoor courtyard, making it a central sculpture garden. Moreover, by opening the tangible room to the sky, the architect created a void space in the new museum instead of building a prominent space as a culmination of the traditional museum. This transformation allows the space to be divorced from the skylight. Hence the mysticism of the pantheon was broken and the publicity of the space was enhanced through the design. However, Stirling successfully retains the spirit of this traditional art space by keeping its traditional function as a setting for classical sculpture, as well as maintaining an appropriate scale that still conveys a sense of the transcendent.



Curved Lines of the Sculpture Garden

The relocation and redevelopment of this

¹¹ JS lecture: 81.

classical museum element not only presents the success in redefining history and traditions, but also allows the classical architectural detail to breathe within the contemporary settings. Stirling allows the pantheon to find its own path toward the future in the same direction as the development of the town.

Such a center void with large curved lines from the opened pantheon also softens the solid weight of the space, as well as decreases the large scale of the building. His design added a tender heart into a gigantic Titan. This femininity shorts the distance between visitors and the building.

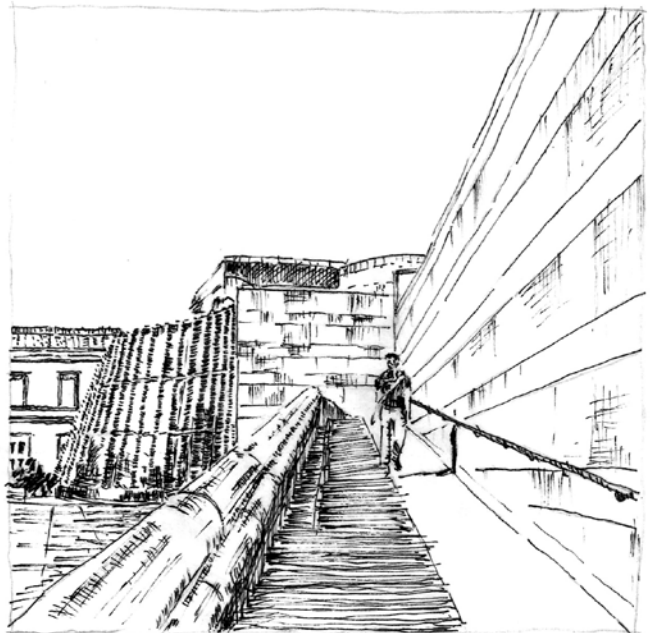
Another attractive new design character of the new Staatsgalerie is the highly colored contemporary components. They were annexed along the traditional and classical parts of the building to deliver the contrast between the modern world and the traditional world. On the one hand, this contrast breaks the harmony and order within the museum space; on the other hand, the collision generates a new expression and emotion that are beyond both modern and classical languages. The design is “present and correspond in the end to social problems: The rootedness, on the one hand, of man in tradition and history, and on the other to his confrontation with technology which is changing mankind and its world.”¹² Therefore, this new vocabulary delivers to visitors the signs of change and movements of the world while they wonder in the new building. These bright colors not only increase the visual enjoyment and experience for spectators, but also symbolize the new energy of history and the traditional museum. Besides various colors, Stirling also applied a glazed wall to the entrance wall. He created a confrontation between the waved and large expanded glass surface and the solid and angular gallery stone walls. As a result, Stirling not only added the taste, interest, and variable movements of modern technology to the traditional museum space, but also increased the energy to the life of Stuttgart.

¹² Rodiek, Thorsten; Barker, Ilse (English translation). James Stirling--The New Staatsgalerie Stuttgart. Stuttgart: Verlag Gerd Hatje, 1984: 3

Above these new varied elements of the museum builds an association with the characteristic of German: Virility but softness, solemnity but livingness.

Not only do these design terms provide diverse possibilities for spectators to explore, the “being self” statement also shows the architect’s innovative way to reborn the traditional museum architecture and the old town. Sirtling helps the new Staatsgalerie find the answers to who she was in the past, is in the present, and will be in the future. The new Staatsgalerie presents its intention on “a re-reading and commentary on the complex patterns and textures of the city. They derive their form and character not merely from functional and physical constraints, but also through the incorporation and/or definition of new boulevards, plazas, courtyards, pathways and other open spaces which enrich the life of the public realm. Our intention is that they can transform the pre-existing situation into a richer dialogue between past and present and this is done neither by the use of ingratiating historic pastiche nor by deference to the *status quo*.”¹³

There are other unconventional uses of classical architectural details to invite the traditions of the museum to co-exist with the modern conditions. The historical covering here does not take the role of the covered cornice in traditional museum architecture. It either becomes the identification of the entrance to galleries, or defines the space of the sculpture terraces. In ad-



Stone Pattern

¹³ Maxwell, Robert. “Introduction”, James Stirling, Michael Wilford, and Associates: buildings & projects, 1975-1992. London: Thames & Hudson, 1994: 5

dition, the “skin” of the new museum facades is composed of large stone claddings instead of bricks. The employment of the new material to implement the brick pattern of the traditional architectural façade gives the building a “technical” appearance. Both the stone-faced “skin” and the traditional pattern establish the attitude of the museum and give the traditional architectural elements a modern status.

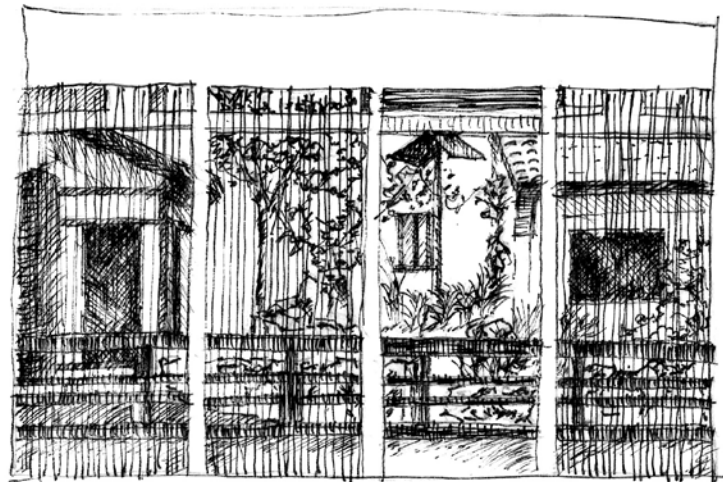
“Our reconstruction of the past is often unreliable and increasingly irrelevant to our contemporary society. Architecture, like all forms of human endeavor, must move forward, but architects must also find a way of doing this that enables people to read and use their buildings in their ordinary lives. People should not be seen as being conservative deliberately in order to obstruct architects, but rather as responding perfectly reasonably and sensibly given their implicit knowledge of the language of space and form.”¹⁴ The design approaches of the new Staatsgalerie are more than building the interactive links between tradition and modernity, the existing city neighborhood and new structures. Stirling’s presentation in the new Staatsgalerie provides the answer to the question: “Who is the new museum?” It is not only the descendant of both modern and traditional museum architecture, but is also a living museum that can be readily approached by visitors who live in contemporary society. In the new Staatsgalerie, Stirling successfully contributes to a unique amalgamation of the traditional and the modern, the old and the new, in uncommon harmony.

¹⁴ Bryan, Lawson. The language of space. Oxford; Boston: Architectural Press, 2001: 98

A Case of Chinese architecture in the emotional design approach

The Nan Shi Pi Ji----a living classic garden style residence (based on an interview to the master, Mr. Fang Ye)

The private residential house, *Nan Shi Pi Ji*¹⁵ (Nan Shi Pi Ji literally means the record of living in Nan Shi Pi), is located in the Eastern South of Suzhou, near the heritage of the Net Master garden. The owner, Mr. Fang Ye, who is the painter of Suzhou Academy of Chinese Painting, is one of the designers. This garden part of this residence was developed from five continued small courtyards on the ground floor. The rectangle layout, covering 500 square meters, provides a free scroll for artist's creation. The residential part is located



Viewing from Interior

in the north, while the man-made mountain is located in the south. A small pond, circling with the opened corridor and several halls, connects these two parts. The purpose for creating this space is not only to appreciate the beauty and aesthetics of nature and the built environment, but also to provide a real life style, a private place for art creation, relaxing, social, and entertainment. In Mr. Ye words, the soul of the classic garden are not exists in the scenery, but in everyday living life. "...Garden is a place for living."

¹⁵ Nan Shi Pi is the name of the street where Mr. Fang Ye's garden residence is located.

“It’s impossible for visitors to perceive the soul of Suzhou classic garden unless one can live in this real environment. The beauty of the garden is generated in one’s emotions and perceptions to seasonal changes, timed circulation, and the switched locations in the garden. This quality does not display in museum, but is specially carried by the architectural space. Living in such kind of place ensures people to build vivid and emotional relationships to the physical environments.”¹⁶

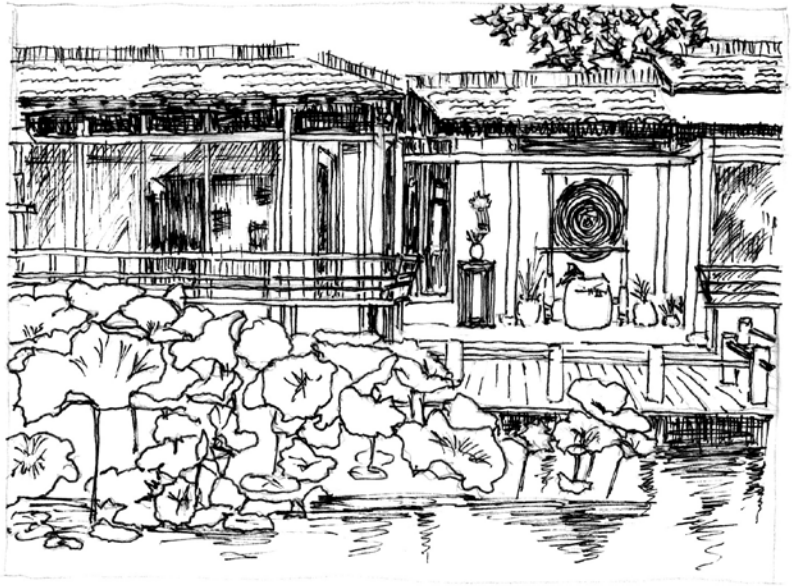
Mr. Ye realizes that the key to reach this soul is to establish emotional connections between people and physical elements in the garden. Mr. Ye’s work focuses on how to connect this garden space with everyday life and make the space not only enjoyable but also playful. The living room on first floor is arranged with Chinese chess table, the Chinese instrument, book shelf, and room for enjoying tea. The second story of this residence is Mr. Ye’s office for his art creation activities. The exterior garden space is used for playing local drama. Mr. Ye didn’t design a performance stage. In his opinion, the garden indeed provides the varied performance stages for drama playing. Any designed element, such as *Shuixie* (the hall over the water), caves, the zigzag bridge, and *Banting* (the three-side pavilion), act as the background for drama playing. When players present a drama in this real scene and stage environments, people who enjoy the music within a few feet arise a feeling that they also participate into the performance. Besides enjoying the local drama, the garden is used for other varied theme parties according to traditions, such as the moon festival party, the birthday party, the wedding party, and the Chinese New Year party. Some parties are organized depending on different interests, such as the party for eating autumn crabs, the party for enjoying seasonal fruits and the party for appreciating seasonal flowers.

The *Nan Shi Pi Ji* presents the aesthetics in carefully arranged setting with different displays and built elements, the selection of materials and their patterns and texture, the harmonization of physical environment and natural environment, and so on. Besides common

¹⁶ Mr. Fang Ye’s personal discussion.

garden construction materials and elements, Mr. Ye employs glass into the garden to adapt the traditional space into contemporary life. All glasses are specially designed and craved with calligraphy. They are applied to make the eave, as well as to pave the road or the bridge. By doing so, one can enjoy the aesthetic of calligraphy in the built space, rather than on the paper or on the walls.

The garden is full of displayed art and antique pieces. They not only enrich the space, but also bring one's memories about movies, songs, pictures, stories and own life experience. Lanterns in different shapes are under the roof of corridors, as well as in the interior of



Summer Garden View

the resident. Delicate bamboo-made bird cages are hung at the edge of the eaves. They also sit among the leaves along the side of the pond. A drum is placed at the corner of the corridor. The setting of these pieces is changed with the seasons. When the summer comes and the water lily blooms, varied shape and colorful vases will join this summer feast. Some are placed under the drum with the form of flower arrangement. Some stay at the corner of the building and hold red fans to blow wind to the pond and the water lily. Some sit on side tables along the corridor and deliver playful sceneries to visitors. All these pieces are traditional, but are familiar things to lots of Chinese, creating feelings for relaxing, for recalling the old time stories or songs. At the same time, they bring fun experiences to people who are unfamiliar with them.

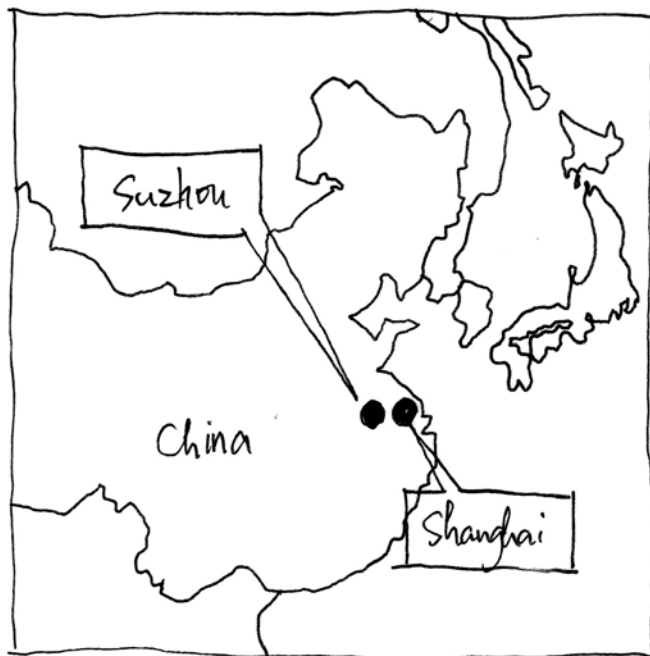
Text pieces are another major decoration work in the place. Mr. Ye carefully placed them in every visible and touchable corner to induce visitors' thoughts and imaginations. There one piece is located on the cliff of the mountain that need visitors to look up. They are also inlaid on the surface of the bridge that requires visitors to look down. Door windows are carved with the text to allow visitors touch. They are more than decorations. Their arrangements provide visitors lots of interest to explore and to search for.

The fun of the *Nan Shi Pi Ji* is to live in, to experience, to explore, and to play with. to touch everyone's heart by the aesthetics , to arise everyone's memories by decorations and displays, to evoke people's imagination by spatial creations, to draw everyone into the garden by varied parties. Thus, all built elements participate into Mr. Ye's family and his friends' everyday life, becoming one of the family members.

Chapter 8 Redesign of New Suzhou Art Museum

Background of Suzhou

Suzhou, known as ‘A Land of Fish and Rice,’ is situated in the southeastern part of Jiangsu Province. It borders Shanghai in the East and Zhejiang Province in the South. North of Suzhou is the great Yangtze River and Taihu Lake, the third largest fresh water lake in China, lies to its West. The 2500-year old city was laid out in ‘double-chess board’ form. Moats serve as navigable waterways along with narrow lanes. Whitewashed



The Location of Suzhou, China

houses with black tile roofs built on streets have their backsides facing man-made waterways. Bridges, water, plants, and the traditional houses mark Suzhou the brand name, A Paradise on the Earth, also called the Venice of China. Throughout its history, Suzhou attracted scholars, aristocrats, and retired high-ranking officials to settle down and build their own garden here. Today it is a home for the greatest collection of classical Chinese gardens in the world. Suzhou also has cultivated many well-known painters, calligraphers, and poets. Other popular art forms also have roots in Suzhou, such as the Kunqu Opera (known as the ‘Mother of Chinese Operas’), Suzhou Opera, and Pingtan (a kind of traditional narrative where the storyteller sings and plays a traditional instrument). These are called the ‘Three Flowers’ of Suzhou’s culture and have been passed down for hundreds of years.¹ But despite its status as a world and national heritage site, old Suzhou is threatened

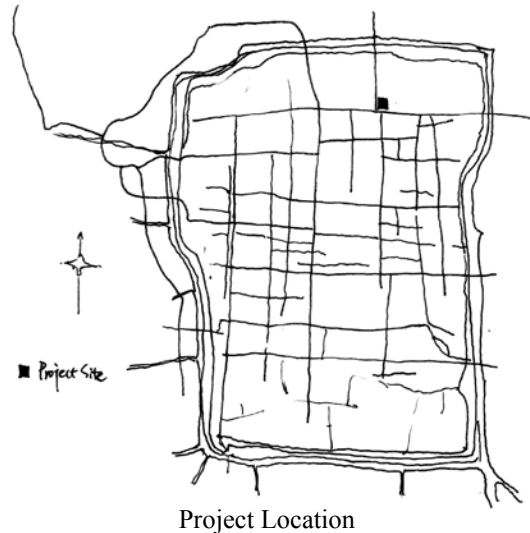
¹ “Suzhou gets face-lift for heritage meeting.” *China Daily*. April 23, 2004. <<http://www.chinadaily.com.cn/english/>

by economically-driven redevelopment and the rush to modernization.

The Project of Suzhou New Art Museum

The Suzhou New Art Museum is an extension of the current Suzhou Art Museum, which will house galleries for contemporary art, painting and calligraphy, the Double Pagoda artifacts, Ming & Qing porcelain and Suzhou arts & crafts objects, special galleries for furniture display, educational facilities, tea services, administrative offices, and the museum shop.

The Suzhou New Art Museum is located in the northeast section of the historic corner in Suzhou, the historical Ping Jiang district. Ping Jiang, meaning “river on the flat land,” is in the northeast quadrant of the old Suzhou city and comprises 40 hectares.² This district is a culture and history center of old Suzhou. One can experience real Suzhou life when walking among and into all existing old residential structures.



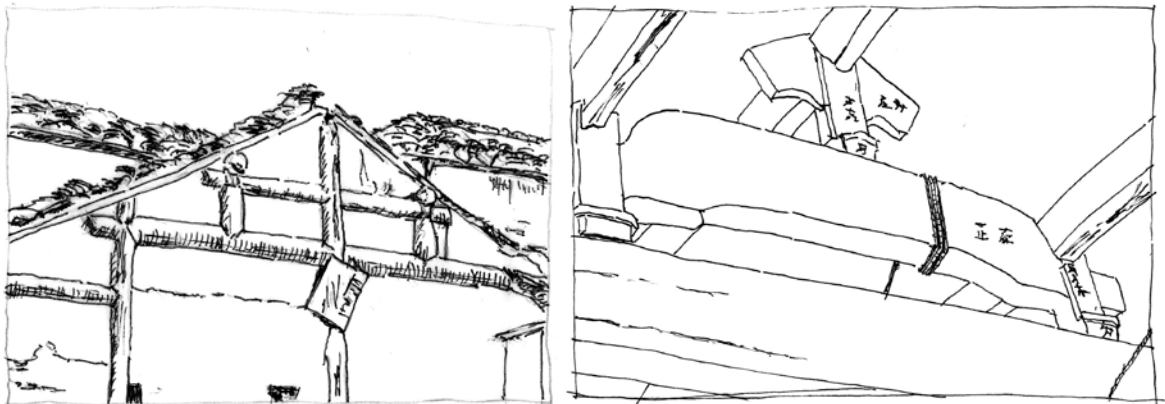
The site is approximately 90 kilometers north-east of Shanghai, which is almost an hour away by car, and is almost 200 kilometers south-west of Nanjing, about two and half hours drive away. The site covers an area of approximately 10,666 sq meters, and is located on the northeast corner of Dongbei Street and Qimen Road. The site is an irregular wedge shape. It is 112 meters on the southern edge, 142 meters on the western edge, and 68 meters on the eastern edge. It has a fairly consistent slope of 5% on the average across the site with

doc/2004-04/23/content_325860.htm>

² Prentice, Helaine Kaplan. *Suzhou: Shaping an Ancient City for the New China*. Washington DC: Spacemaker Press, 1998:18

slopes up to 12% at the steepest portion at the south of the site.

The site is located in a mixed-use zone which includes hospitals, pre-elementary schools, a few modern apartments, and traditional residential structures. There are some 17th century residential structures within the site, namely the Zhang Mansion to the west and the *Wang* Mansion situate next to the Zhong Wang Fu. Some of these structures are of special historical significance and all of them should be preserved, restored, and adapted for new uses.



Existing Building Conditions

They are listed as follows:

1. Color-Paintings Hall. It is the main hall of Yi Zhuang and was built by the late Qian Long emperor (Qing Dynasty). It is also the most valuable structure among these eleven buildings. The original color paintings still cover the ridge beam and other secondary beams. An arc on the roof has carvings of drama stories with the subjects dressed in rolled gold. At the back of this hall stands a carved brick gate, on which the words “Lan *Gui* Mao Cheng” (give the meaning need) left by the famous calligrapher Yu Laiqiu.
2. Sha Mao Hall. This later-Qing styled hall was located on the west axis of Yi Zhuang and was later used as pre-elementary school.
3. *Three-Lou* Halls. They were located north of the Color-Paintings Hall and are recognized as the front Lou Hall, the middle Lou Hall, and the back Lou Hall. Two-story

wing halls on the eastern side connect these three-Lou Halls with courtyards inside.

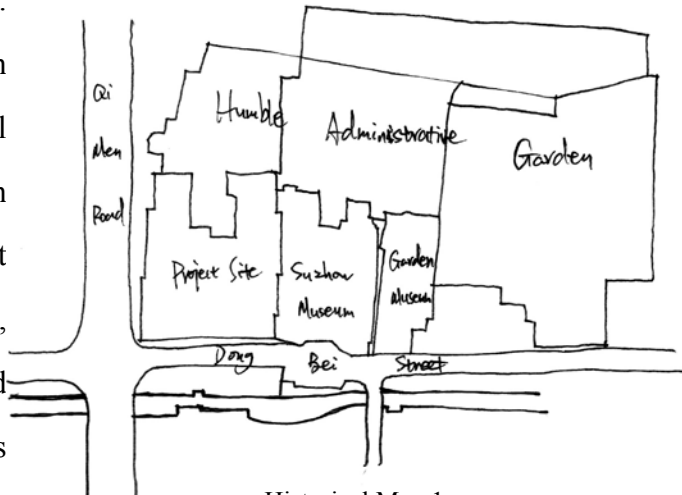
4. Tang Lou Hall. It is a two-story building and was located north of the Sha Mao Hall and the brick carvings on the windows in the second story still represent the classic Chinese brick-carving art in traditional Chinese architecture.
5. Yi Zhi Xiang Hall. This hall is also named the Round Hall due to its small scale and finished decorations inside.
6. Small Wu Jie Hui Ding Hall. Located on the eastern side of the Sha Mao Hall, this hall is also called the small study room with a particular roof structure, the Wu Jie Hui Ding. The high level craft can be found in the delicate windows of this hall.
7. Basket Hall. It is valued for its sophisticatedly carved craft on beams and purlins in traditional patterns of bats, clouds, bamboos, plums, orchids, and chrysanthemums.
8. Qin Ren Hall. It was located in Pingjiang Hospital and its grass-roof structural style is the same as the famous Chinese landscape book *Yuan Ye (The Crafts of Gardens)*. As the largest hall in Suzhou, this early Qing-style hall is 22 meters (70 feet) in width and 19 meters (60 feet) in depth and the area of the hall reaches 418 square meters.
9. The typical 2-story and western-style building. It was one of the few typical and classic modern architectural styles (modern meaning early 20's) in Suzhou .

The 2-story Xiaojielou on the northeast corner should be preserved, restored and adapted for new uses. The existing 3-story collection-storage building is of modern vintage that was built in 1990's and does not meet with historical significant criteria. This building, together with its 1-story supplementary structure, should be demolished.

To the east of the site is Zhong Wang Fu, a complex of 19th Century historical structures and a national historical landmark. The Suzhou Art Museum is currently housed in this complex. To the north is the classical Garden of the Humble Administrator, a large 18th Century garden with extensive pavilions and elaborate landscaping, and is listed as one of

the UNESCO World Heritage sites.

Along the north is also the Museum of Bonsai Trees, housed in several undistinguished structures on an unattractive and unlandscaped plot of land. To the west is Qimen Road, which together with Lindun Road to the south, forms one of Suzhou's major north-south boulevards. As



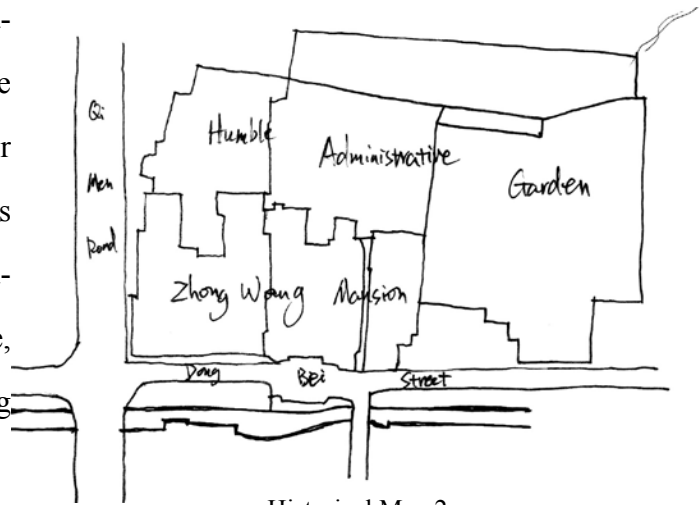
Historical Map 1

both Qimen Road and Lindun Road have been recently widened and redeveloped, adjacent buildings range from two to four stories high and are all modern undistinctive structures with no architectural merit. Toward the south, and across one of Suzhou's famed scenic canals, is a district of 18th century residential structures. Some of them may be historically significant and should be preserved. This area ultimately leads to the Lion Forest Garden, another classical garden recognized as a UNESCO World Heritage site and known for its extensive rock formation.

The history of the site started with the Garden of the Humble Administrator. It was laid out in 1513 by the censor, Wang Xiancheng, after his retirement from political life. This garden changed its host several times after the death of Wang. It either belonged to a private mansion or became part of the official bureaucracy, experiencing the flourish and decadence of the times.

When troops of the Taiping kingdom conquered Suzhou in the 10th year of Emperor *Xian Feng*'s rule in 1860, King Zhong, Li Xiucheng, picked this site and the present Art Museum as his residence, as well as an official center for Taiping kingdom's political activities. King Zhong started to construct his office, today's Suzhou Historical Museum, and the

living area, the present-day location of the Suzhou Art Museum. He changed the Humble Administrator Garden to become the garden in his mansion. The whole group, including these parts-office, residence, and garden, was named the Zhong Wang Fu.



Historical Map 2

In the second year of Emperor Tong Zhi's rule (1863), Li Hongzhang, a famous officer in the later Qing dynasty, captained the Qing troops and occupied Suzhou. He set the Zhong Wang Fu as his office and residence in Jiangsu Province and named it Wu Xing Yuan.

In 1871, Zhang Zhiwan, the chief governor of Jiangsu Province, repaired the garden in Zhong Wang Fu mansion. One year after, Zhang Zhiwan with his friends spent 5,000 Liang (the currency in Qing Dynasty) to rebuild the central part of the Zhong Wang Fu mansion as the Hui Guan ("Hui Guan" can either refer to a clan association or the building housing such an association) of Ba Qi Feng Zhi (Feng Zhi: the abrasive name of Hebei Province and Dongbei area in China; Ba Qi: A control and political system of the Qing dynasty, and the term usually refers to someone of Qing (Manchurian)). The area of this Hui Guan includes the central part of the Humble Administrator Garden, today's Suzhou Museum, and the original Pan mansion.

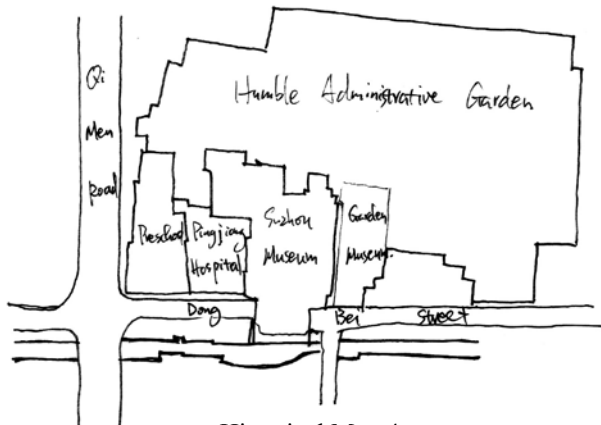
In the third year of Emperor Guang Xu (1877), Zhang Lvqian, a businessman bought the western part of Zhong Wang Fu for 6500 Liang and changed its name to Zhang mansion, which sits on the western part of the Humble Administrator Garden today. After his repair and reconstruction work, he named this site *Bu Yuan*. The southern *Bu Yuan* consists of the

residential part, Tsz Tong and Yi Zhuang (“Yi Zhuang” was the product of an agriculture-based society in traditional China, where family would donate its riches to build the Yi Zhuang to help poor fellow clansmen. Yi Zhuang includes school, public farmland, and Tsz Tang). Later, this southern part was broken up into several pieces to form, the administrative part of the Suzhou Art Museum, the Pingjiang hospital, and a post office.



Historical Map 3

During the Min period, the Hui Guan of Ba Qi Feng Zhi was adapted to become a tea house and an entertainment ground due to the decrease in the number of Ba Qi Feng Zhi offspring in Suzhou.



Historical Map 4

After the Chinese liberation in 1949, another series of significant changes happened on this site. The official part of Zhong Wang Fu mansion and the Hui Guan of Ba Qi Feng Zhi became the site of today’s Suzhou Art Museum. The original Pan mansion (also the residential part of Zhang Zhiwan) first changed into a craft and fine arts school and is now the location of the Suzhou Garden Museum.

Pei’s Design Work of New Suzhou Art Museum

The current New Suzhou Art Museum was designed by architect I. M. Pei. The design work is full of challenges, because it needs to weave a new structure part into the extremely sensitive urban context. The goal of Pei’s work is to deal with the interrelationship between

the old and the new, to harmonize the fabric of the city, display local architectural features, as well as to integrate the present and future elements into the new museum.

Gabriel Faure wrote of the phenomenon by which a melody could “develop and clothe itself in a variety of entertaining harmonies, to change and modulate.”³ This is seen in this museum design work. Pei proposed solutions to development requirements by engaging traditional Chinese architectural and cultural elements into the contemporary museum environment to interpret the old and the new relationship. This can be illustrated in his innovation design conception, “Chinese but new, Suzhou but new”. To some extent, this creativity is based on Pei’s relationship with Suzhou and his understanding of the past of the city, the character and culture of Chinese architecture, as well as his own design ideology and experience. Therefore, the inventive refinement of traditional architectural elements to generate a sense of harmonization and continuity is employed as a primary approach in Pei’s new museum design work. The development of traditional Chinese architectural elements expresses Pei’s idea of how he perceives the new and continuity to history. “(Design work) not only requires the participation of the tradition, but also needs to give birth to the creation. Here, the former means the implementation of traditional elements, which can contribute to giving visitors a comfortable and harmonized feeling of the museum; the later presents the application of new ideologies and new design methods, which can display the attractive side of the museum.”⁴ These traditions also give the new museum a regional identity.

To respect the small-scaled historical context, Pei’s design was to create clusters of square galleries that are appropriately proportioned and dimensioned in their volumes. These galleries, with the interconnection of small courtyards, are arranged in the dwelling-courtyard axis form from the traditional Chinese layout. The traditional Chinese axis layout mainly

³ Northcott, Bayan, “Memories Regained,” *The Independent*, May 4, 1991

⁴ Lu, Weixin. “The Innovation Work from Master Pei.” *Design Biweekly*. No. 127. July 14, 2003: 5

focuses on the solid-void relationship and the space rhythm in the North-South direction. Pei further extended this relationship to the East-West direction. Three axes were placed from east to west, in the order of solid, void, and solid, which contributes to a new dynamic and a transverse movement in the existing fabric.

Moreover, this new layout redevelops the visitor's visual perception of their indoor art experience to the outdoor landscape. Pei really pays attention to this relationship as an approach to enrich visitor's art enjoyment. He believed that "all forms of Chinese art are directly or indirectly the result of a sensitive observation of nature. Such objects, consequently, are best displayed in surroundings which are in tune with them, surroundings which incorporate as much as possible the controlling elements of natural beauty."⁵ By means of the museum's layout design, Pei ensures that the visible scene to indoor visitors is no longer restrained within the fore-and-aft direction, but conducive to visitors pursuing outside landscape in multiple directions. Hence, the solid-void space dynamics in the East-West direction further modifies the traditionally monotone visual relationship between courtyard and visitors. The architect use a simple, but effective and useful space relationship to deliver more emotional messages from the museum courtyards and the garden to indoor visitors.

Pei not only integrates the traditional architectural elements, but also includes Chinese culture and ideology. He subtly blended the traditional pattern of the Nine Square Grid⁶ into the layout of the Calligraphy and Painting gallery on the ground floor to deliver his neo-traditional, aesthetic, and functional design. By making the adjustments of four corner grids to cut them diagonally, Pei changes the original square layout into an octagon to match the layout form with the octagonal roof structure. He commissioned the space in the

⁵ "Museum for Chinese Art, Shanghai, China." *Progressive Architecture*, February, 1948: 52

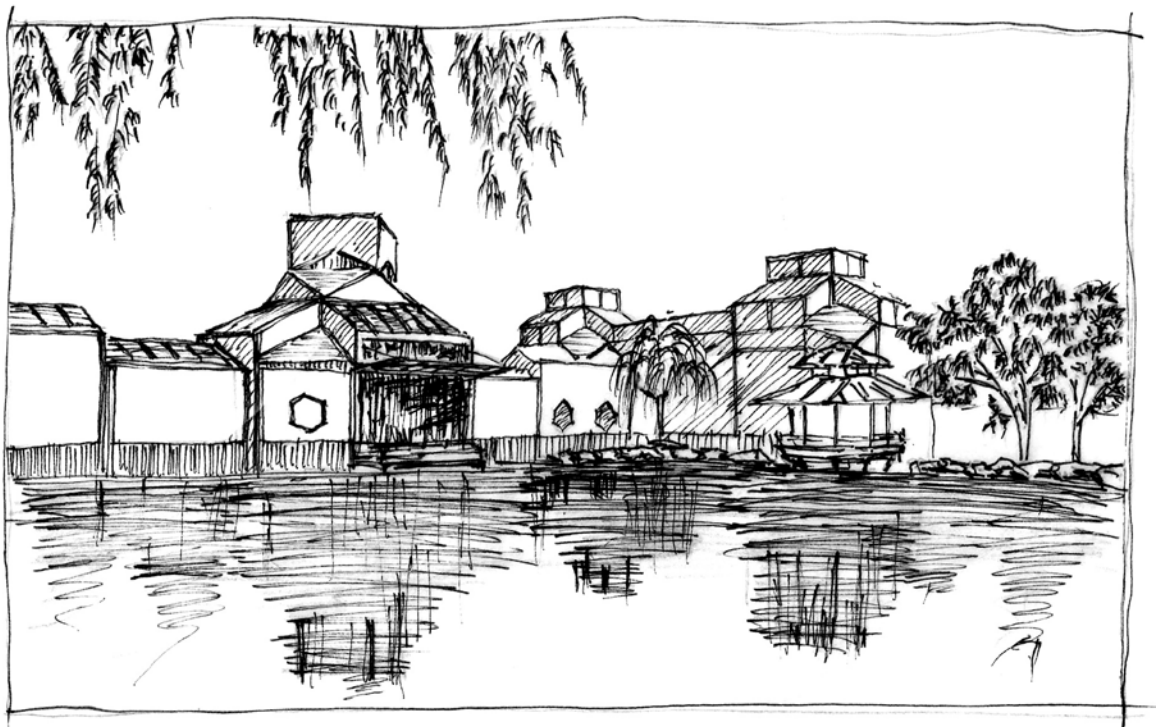
⁶ Two horizontal lines and two vertical lines, at equal distance, divide the square plan in the same distance into 9 square plots with the equal size. This common mandala structure is known as Luo Shu, the basis of symbolism in various Chinese phenomena.

central grid with the role of public transportation; while he designated the other seven grids as exhibition space. The central space of the gallery runs through the first floor so that it directly catches the light sent down from the window roof above. This space arrangement presents Pei's mature recognition and his dissection observation on the lighting and exhibition environment for expressing those Chinese art objects in the form of a scroll. Not only do the layout and the centralized light source have the advantage of creating an evenly distributed natural light on the artworks, but also the octagon-shaped layout, being similar to the shape of a drum, ensures a continuous wall for presenting the scroll.

The employment of new materials and technologies presents a sense of time. Pei formed the museum with lightweight engineering. In galleries, the light steel forms the geometrical structure to support the roof. These tensile structures generate the feeling that the new elements are less threatening to historic sites and environment. Moreover, using these contemporary materials to establish traditional/neo-traditional forms and structures conveys the meaning and symbolism of changes into the historic context. They help the new building to exist comfortably alongside the historic fabric.

Pei also focuses on how to apply new materials and technology to make conversation with the traditional Chinese architectural elements. Pei showed a large amount of interest in geometrical patterns in Chinese traditional architecture. The result here is several octagon-shaped roofs, upheld by complex and geometrical steel structures, covering the whole galleries with glass roof façades. The invention of such a roof shape presents his illustration on applying traditional geometrical patterns to buildings. This shape also creates multiple façades on the roof, increasing the area for assembling natural light. Therefore, a qualified lighting and public environment was developed by the architect by providing an interaction between the lighting and construction systems.

The central Suzhou classic garden is the vital part in Pei's design to build a harmonized and intimated relationship with the museum's neighbor, the Administrative Humble Garden. Pei's design replicated a small Classic Suzhou garden on plan's northern edge sitting next to the Administrative Humble Garden. A pond was excavated to connect to the pond in the Administrative Humble Garden. Therefore, water, being a link, is the channel to these two sites, allowing the interaction of the new and the old. Water inducts the rich culture and history of the Administrative Humble Garden into the museum. Both the style and the pond of the new garden identify the museum as continuity to the Administrative Humble Garden. On the other hand, the pond in the new museum enriches and completes the ancient garden. Based on the channeled water, Pei created a blended symphony to bunch the two places, demonstrating the relationship between the old and the new. If the water in the Administrative Humble Garden sets the prelude and tidemark, then the assembled flowing water in the new museum positions the epilogue for this symphony. Pei clearly defines the role of the new museum in the intervention with history, and enhances the quality of the existing Administrative Humble Garden.



Central Garden

Besides the continuity, this little garden achieves a sense of implied separation between the new and the original, establishing a clear understanding of what is new and what is historic. Pei employed a length of stone wall on the edge of the pond between the new museum and the Administrative Humble Garden. The wall, being the connector becomes the moment of silence in the water symphony. It allows contemplation of the phrase; while, at the same time, it awaits the next statement of the music. “The pause stimulates thought both backwards and forwards.”⁷

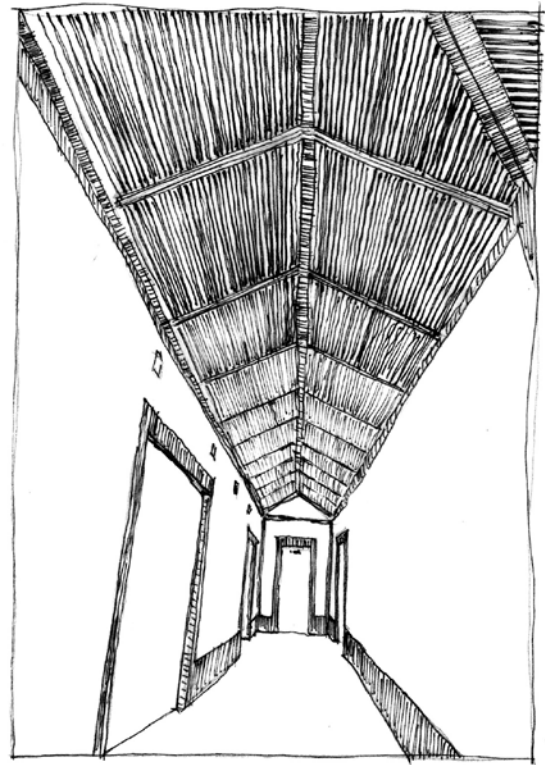
Based on above discussions, Pei’s design successfully demonstrates his thoughts and views on how to combine the traditional Chinese cultural and architectural elements into the contemporary museum space if one does not consider about this sensitive district. Being part of the historical and livable environment, any new built structure should try to incorporate itself into this living atmosphere. Somehow, the built new museum doesn’t breathe with its existing neighbors, but is indeed superior to them. The feeling of distance to other existing buildings and local residents is easily perceived after visiting through the whole museum.

This distance is caused by several reasons. First, the sensitive location requires the design to pay more attention to the construction scale and details. The museum is not only next to two heritage sites, but also sits in the Ping Jiang historical district, which is a highly density residential area. Both hospital and approachable are immediate impressions when visitors enter into this district. These two perceptions not only come from the small scale, but also are generated by buildings’ details, decorations and furniture, as well as their relationships with nature, environments and local residents’ activities.

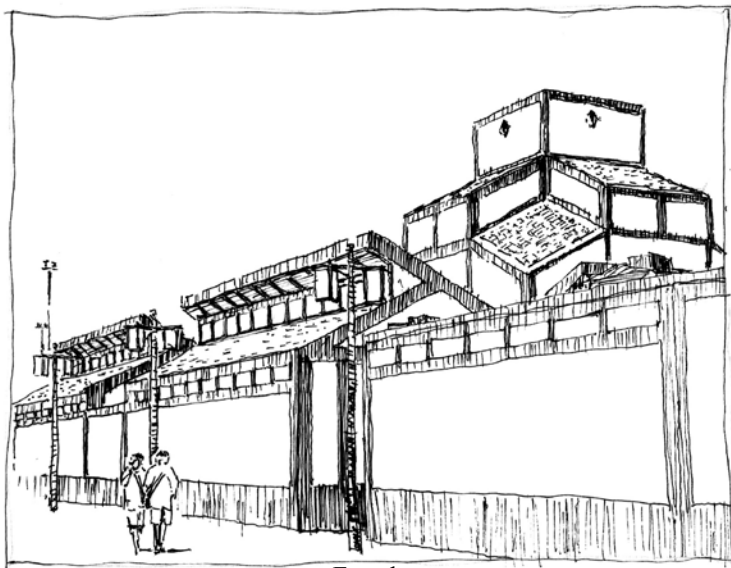
Secondly, the museum space lacks a vivid atmosphere comparing to the living community. The museum space does not provide enough places to interact with visitors except for the

⁷ Northcott, Bayan, “The Sound of Silence”, *The Independent*, December 21, 1990

big resting area under the pavilion in the back garden. Comparing to the playful and enjoyable classic garden, this new garden is quite unattractive when compared to the traditional Chinese gardening concepts. Corridors present visitors the beauty of the shade and the framed views, but there is no work on guiding and informing people to explore the contents of the museum. The museum space seems lie in a state of dormancy without visitors' participation. Therefore, the museum design needs to produce and create little funs in every corner by carefully locating different decorations and art pieces, as well as introducing cultural elements into the space.



Corridor of Pei's Design

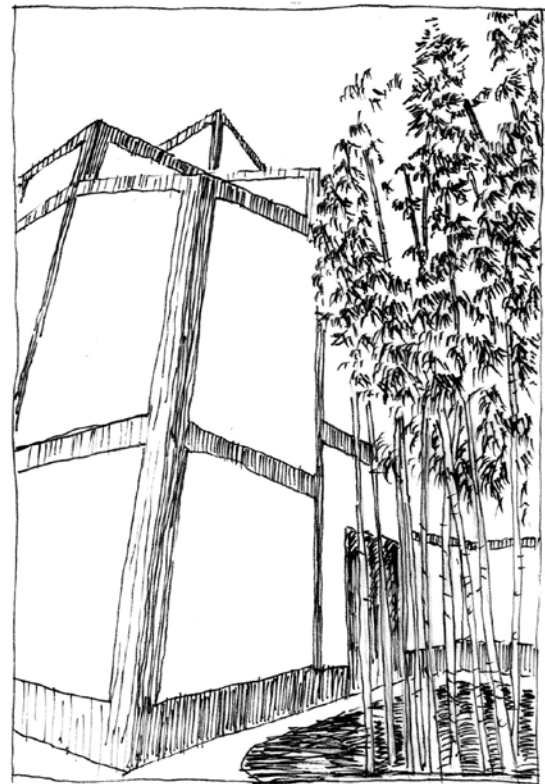


Facade

The cold feeling of the new built museum also blocks all sorts of moods penetrate into the space, which causes the buildings lost their vitality. The majority of materials (glass, metal, concrete) employed in the museum directly contrast to museum's neighbors (wood and brick) without any transition. Moreover, the museum lacks col-

ors, varieties, curves, and etc, which are the elements in Chinese architecture that provide changes and evoke moods. The current grey and white colors present buildings' elegant to visitors. However, they are cold colors. Yes, the black, grey, and white are the image of traditional Chinese architecture. But this is only the appearance of the buildings. The interior of buildings is full of diverse colors according to change of seasons with booms of flowers, fishes in the pond, and colored vases and lanterns. However, the entire new museum is colorless except for bunches of cornered green. With the color, the Chinese emotional space is not tedious and monotonous, but enrichment and playful. The existing of curves in space invites the soft and comfortable perceptions. On the contrary, the new built museum is completely formed with straight lines.

Pei's design work excessively concentrates on geometrical forms of Chinese traditional architecture. This not only generates tough, rigid and stiff feelings, but also restricts the varied changes in museum space. The grey decorated lines symbolizing wooden beam in traditional buildings, confine four edges of the white walls the those details, such as texture and patterns. Pei's museum space talks about the cleanness and empty, which is totally different from its neighbors who provide mental experience to move people.



Straight Lines

Pei's design work lacks intimacy among the audience, architectural space, the collections, and the around environment. Even though his layout already scales down the size and volume of the building, the design failed to create a dapper and humane atmosphere. This is because the design concentrates less on the connections of spaces, such as gates, open-

ings, paths, water, stairs, openings, and so on. These spatial connections provide fun and attractions for visitors to explore and to experience the architecture. Thus, the intimacy is generated in traditional Chinese architectural space. Another possible reason is that Pei's design uses too much straight lines, which make the whole architecture cold to audience, resulting in the distance between the audience and the building. The employment of curved line can soften the feeling.

Furthermore, the huge glass façade on the roof, with complex roof structures, as well as the attractive geometrical roof shape, these all overemphasize the dominant position of the roof on the site, producing an overt architectural statement against the surrounding heritages and the city's historical context. This overpowering gesture expresses a feeling of being outraged and threatened, which leading an inappropriate but strong character of its own in this critical location. Even the equal status does not work in terms of new architecture alongside existing historic buildings. "It is the historic element of the site which has to remain dominant with the new intervention kept subordinate."⁸ In short, the architect failed to incorporate the new architecture more naturally with the modest scale of the city, and to portray a sense of being the continuity of this historic site.

The design work is not only about the making of buildings, but also about the experience of life, the life of the city, the district and the people. If visited both new museum and old museum everyday, it's impossible for one to find any change in the new museum space except for the exhibitions, but one can gain surprise by chance in the old museum. From some points, Pei's design work can be regarded as a modern practice for the famous garden writing, Shuo Yuan. This new museum environment is a very architectural-feeling garden, because the architect completely controls and sets the scenery frames and he uses designed elements to guide visitors through the buildings, "they are the best views to appreciate the Chinese space". Hence, compared to the old museum, the built new art museum is much

⁸ Strike, James. Architecture in Conservation—Managing Development at Historic Sites. London, Routledge, 1994: 102

like a miniature garden. Visitors perceive the space not from their own exploration and experience but from settled frames. The architectural space should provide varieties and possibilities rather than the only one form.

Redesign work of New Suzhou Art Museum

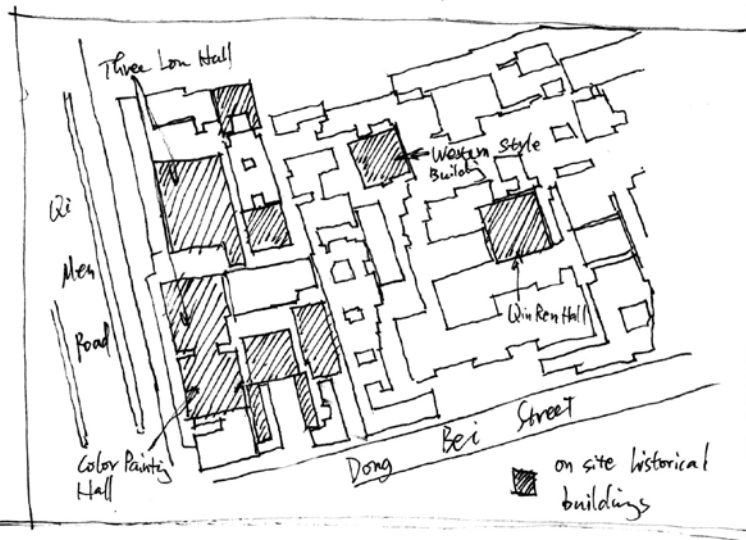
The redesign work doesn't intend to discard and deny Pei's design ideas, but rather to provide another alternative approach to keep as many as historical buildings as possible on the site based on Pei's design. Therefore, the goal of the redesign work is to create emotional space in the museum to balance historical buildings and new construction areas, as well as to dissolve them into existing historical surroundings. By doing so, the new museum can become a place for people to enjoy local culture and real instead of an admired landmark.

The reuse of existing historical buildings

Learning from Pei's design work, improving museum's relationships with real local life and history, as well as personally emotional connections, while creating an equal relationship between the old and the new, became the purpose of my redesign. Preserving on site historical buildings becomes a precondition to realize this design purpose. These remnants are old, even shabby, but they are the living heritage--part of the historical documents of the city. Not only conservation and adaptation will be given to these remnants, but also the consideration on how to incorporate them into the museum's daily activities and functions will be given to them.

Seven existing buildings on the site will be preserved in the redesign work. They are Color Painting Hall, Three-Lou Halls, Qin Ren Hall, and the two stories Western style building. They either have the value of historic and cultural significance, or they can be poten-

tially adapted into the new museum's new functional uses. Conservation work will be given to the Color Painting Hall, Qin Ren Hall and the two stories Western style building. These buildings' services will be renewed so that they can meet new code requirements and the museum's new functions.

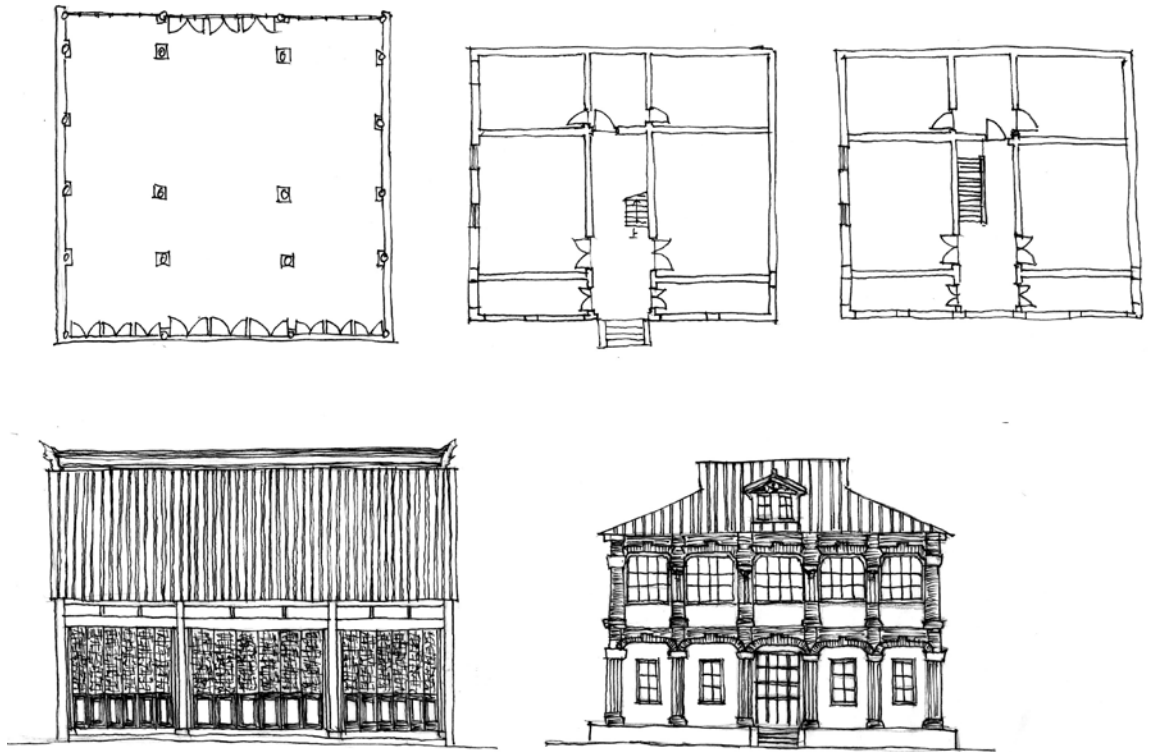


Map of Historical Buildings

The museum space's reorganization considers the selection of sites. Based on the existing buildings and environments, the floor plan is mainly divided into three parts (floor plan drawing):

1. Exhibition galleries: They are organized based on the layout of the existing buildings on the site's Western axis.
2. Visitor relaxation and social areas: These areas are composed in the style of Suzhou classic garden environments. The arrangement of their layout is developed from three historical buildings-- Qin Ren Hall, the two stories Western style building, and Xiaojielou.
3. Facilities and staff section: This section is mainly located in the rear of the exhibition section and in the basement with its own access.

Located on the Western axis, Color Painting Hall and Three-Lou Halls are arranged in a line from South to North. The similar and orderly floor plan with consecutive courtyards connecting with each other, adequate height, and large window door façade, provide the potential to convert them into exhibition galleries. Qin Ren Hall, being next to the Humble



Floor plans and Facades of Qin Ren Hall and Western Style Building

Administration Garden, sits on the right axis of the site. It directly faces towards another historical building of the old museum, Xiaojielou. On its Western north direction is located the Western style building. Both Qin Ren Hall and the Western style building are in great condition. Their significant historical and technical values require conservation work on them. Qin Ren Hall, having the largest acreage among all historical buildings, will be re-used as a tea house for visitors' social and relaxing activities. The Western style building will be converted into two parts: the ground floor will act as the entrance of the theater and the second floor will be the exhibition gallery that displays all information and articles about local drama. Xiaojielou, with the glimpse views in the Humble Administrative garden, will be treated as a large but real background for the performing stage of local dramas. Considering varied connections and relationships for the three remaining buildings, an irregular plan is created with a pond in the center surrounded by a classical garden with local traditional plants. This area not only presents tradition and culture of Suzhou's classic gardens, but also provides a social and entertainment place for local communities .

STORAGE
FILE ROOM
STORAGE

REST ROOM
SECURITY

REST ROOM
BUILDING SERVICE
FAN ROOM

STAFF REST ROOMS

THEATER LOBBY
THEATER TICKET

FAN ROOM

LOADING
GARBAGE
FAN ROOM

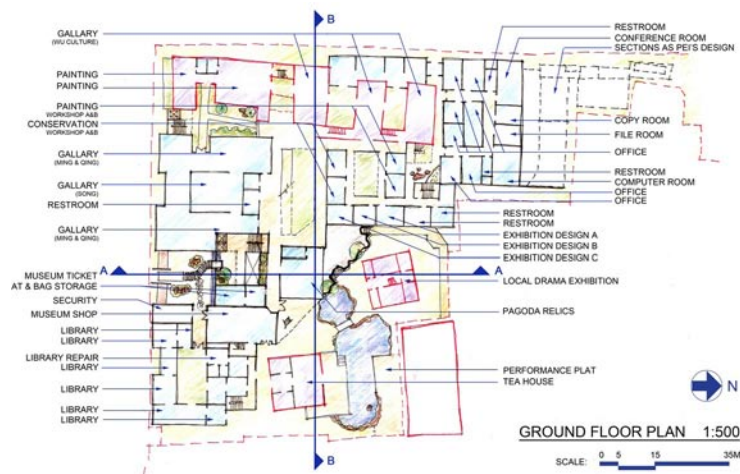
STAGE
THEATER
THEATRE STORAGE
THEATRE STORAGE

THEATER REST ROOMS
PUMPING ROOM

SECTIONS AS PEI'S DESIGN

BASEMENT PLAN 1:500

SCALE: 0 5 15 35M



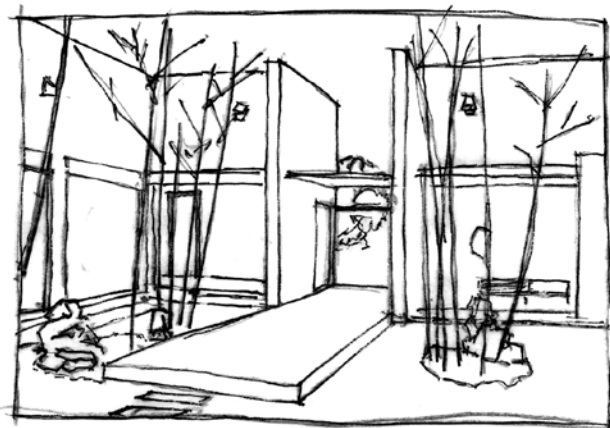
ments into the design to balance the new construction parts and historical environments and structures within/surrounding the museum.

To achieve the qualities of an emotional space, the redesign work explores the museum space through the following design aspects.

The Quality of Exploration/Searching

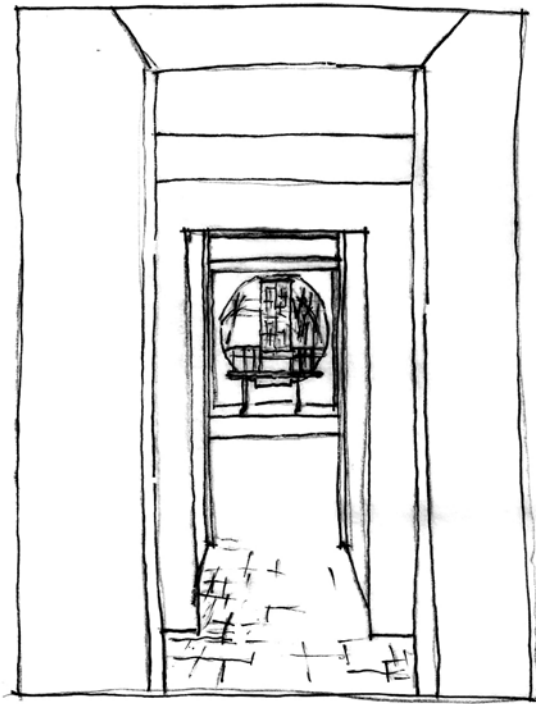
Hide-and-seek is one of the main means to inspire people's interests explore and enjoy the whole museum. Visitors will not reach the museum after they get into the entrance. The designed up-and-down visiting routes become the obstacle for the museum exhibit itself at first. The pavilion space, mountain, ramp, plants, courtyards, and divided walls increase the difficulty for visitors to get their destinations. They together with the up-and-down movements make detours and create distance on the restricted site. Through these elements, as well as the pond, and in-door balconies in gallery rooms, multiple spatial layers thus are created to arouse visitors' eagerness to search for the correct route.

To improve experience of this spatial seeking process in this museum, the up-and-down routes are used to allow people to experience the wonder and space of the museum. The small but closed entrance courtyard and pavilion space on the man-made mountain block the visitors' view of the whole museum. The entrance route guides visitors must up first so that everyone must guess what is hiding behind the pavilion. Two high walls at the museum entrance intensify the attraction. Then, the main



Two High Walls of the Entrance

stair in the entrance courtyard directs everyone climb up to galleries. Openings in the walls of the new gallery part provide the view of onsite historical structures and hint scenes of the Humble Administration garden, helping visitors establish a path to the local history and culture. After visiting the exhibition area, the spatial routes lead visitors down to the garden section. A ramp in the courtyard of the exhibition section guides visitors to the ground floor, at the same time the small path on the mountain and an outdoor stair lead people into the social/relaxation section.



Openings Creating the Infinite of Distance

The redesign work focuses on creating the infinite of distance in this limited site ground. Borrowing of scenery from the museum's neighbor the Humble Administration Garden, and images of on-site historical buildings help generate infinite space and time. Both openings on exhibition walls towards courtyards and existing historical buildings, as well as the employment of historical buildings as background for local drama performances give a mysterious atmosphere to the museum. This mysterious feeling leads everyone to look for related stories and information about the his-

torical environment. Thus, the new museum establishes connections with the past. The scenery and images are clues to encourage visitors' boundless imaginations and their desire to explore.

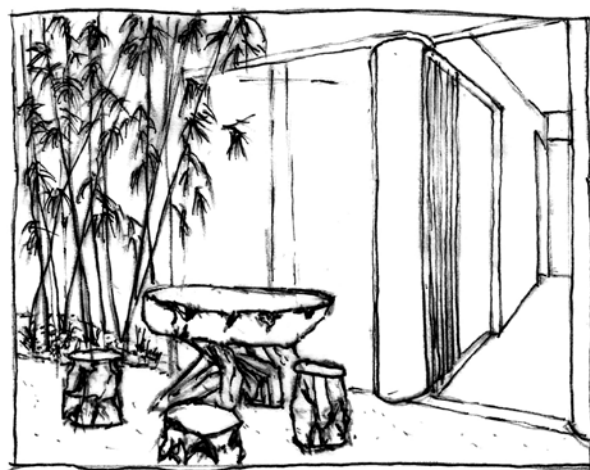
Various connections are designed to link the different spaces to enhance the exploring experience. A large slab of flagstone paved at the museum entrance leads the visitors into the

museum from Dongbei Street, and indicates the separation from the chaos of the world. A pavilion-style space sitting on a man-made mountain, transits the entrance area into the gallery section and the social/relaxation section.

The quality of participation

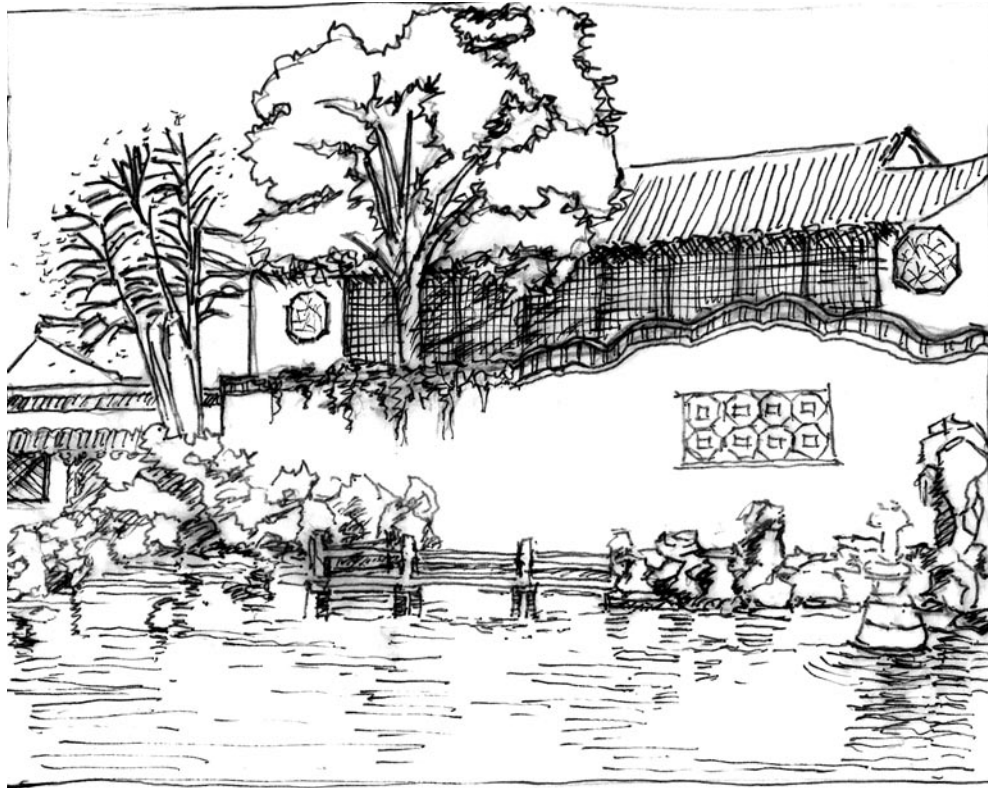


Rest Place in the Gallery



Rest Place in the Courtyard

To create a social and daily learning and entertainment place for local communities rather than a display room, the redesign work provides a social/relaxation section for people's interactive activities in the new museum is another method to enhance visitors' participation. This section is located on the right axis of the layout with a pond in the center. Stairs and stones along the pond edge provide people with the opportunity to play the water and watch the fish. A tea house platform and a performance stage for local drama are set next to the pond for people to enjoy themselves. The pond area with lots of resting space primarily carries a social function for visitors. In the exhibition section, small courtyards and indoor balconies are responsible for people's interactive activities. Stone tables and chairs as well as traditional fur-



A Performance Stage for Local Drama Playing

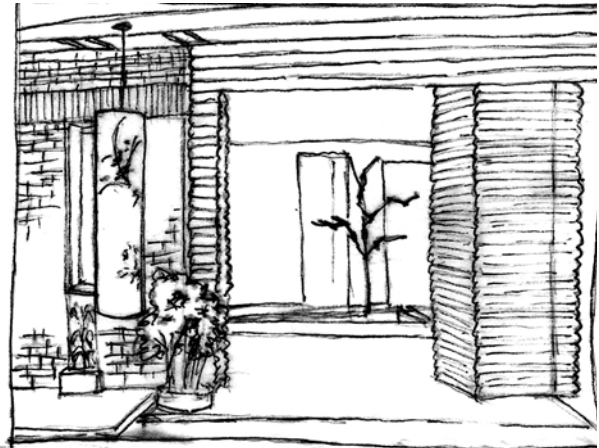
niture are set next to the plants (such as bamboo, plum blossom, magnolia trees), providing an atmosphere of place of leisure .

A rocky mountain will be built to bridge between the gallery section and garden and leisure section. The waved corridor leads viewers into the top of the rocky mountain so that everyone can take a break after enjoying the long art journey. Here, an entire scene of the garden area and the glimpse of far side the Humble Administration Garden can be caught by eyes. Stairs, pebbled paths, the bridge and terraces guide visitors into different functional places in the garden section. After walking down the hill, one can go over the bridge and continue his journey in appreciating the exhibition housing in the two story western building, or one can walk up to the terrace outside of the tea house for a tea drinking or card/chess playing, or even watching the local drama that performed over the pond.

The Quality of Aesthetics

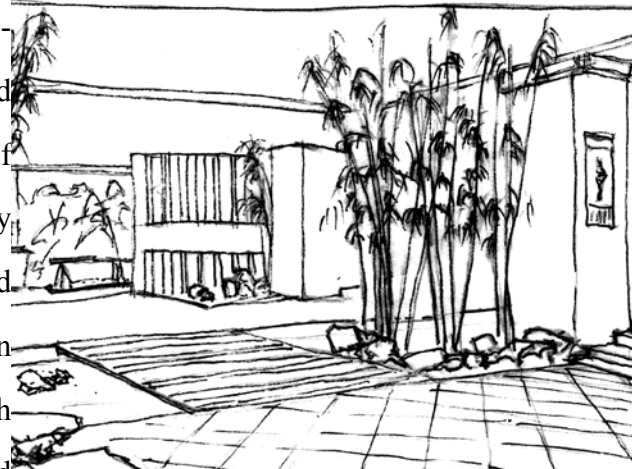
Aesthetics allow people to easily catch the feeling of the space so that they can help understand the local life and culture. They act as a wax that gently erases the rigid dehumanized feeling of the new museum and harmonize the new parts with the existing parts. Allowing visitors to use their varied senses is the primary method to achieve the aesthetics quality in the museum space.

The redesign work uses varied material elements and their special patterns to impress everyone's eyes, for example plants, rocks in courtyards of the exhibition section, and the hardness of the newly constructed space. Local bricks, bamboo, and woods carry memories to local residents and visitors, making the new parts more



Local Materials and Patterns on Walls

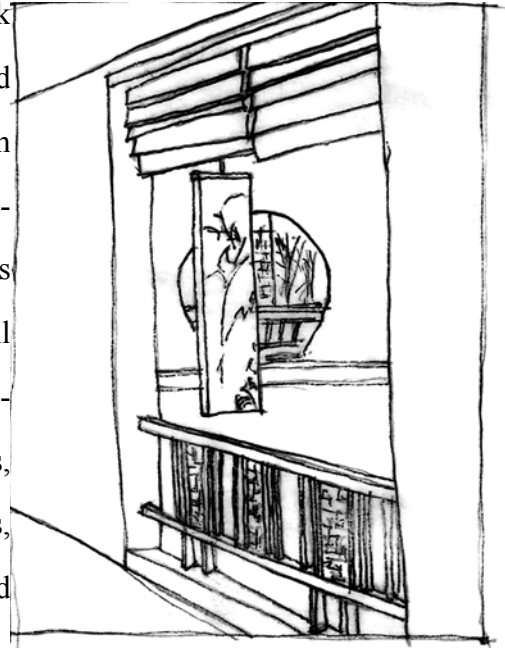
intimate and familiar to people. Moreover, the unique local brick patterns and fence patterns and the employment of multiple local materials ensure variety in the newly constructed parts. A waved corridor in the courtyard of the exhibition section contributes a vivid contrast with all straight forms. Furthermore, opened areas, such as courtyards and corridors,



Local Materials for the Pavement

ensure people comprehend the changes in the seasons and different times of a day. This kind of space incorporates the concept of time into the museum design so that the museum becomes a living area for all local residents and visitors.

Another significant approach in the redesign work to catch one's eyes is to incorporate Chinese and local culturally significant elements in the museum space, for example, the retaining of existing historical buildings onsite, the painted Chinese lanterns hanging on the wall windows, circle shaped wall openings with beautiful window lattice pattern, local plants and flowers in courtyards and gardens, Suzhou local materials and their colors and patterns, local furniture, Chinese instruments, art works, and etc.



the Painted Chinese Lantern

Scale significantly determines the right perception of space. The redesign work copies varied sizes and dimensions from the existing buildings and courtyards such as similar forms and the sizes of the new galleries. The height of the new constructed parts is restricted by the existing building height, and the size of windows and doors in the newly constructed parts. Some of Pei's design floor plans have been retained. To downsize their large scale, the redesign work draws back parts of walls along Dongbei street side to mitigate this façade's overpowering feeling on the narrow streets and nearby heritages. Moreover, the similarly sized windows copied from existing buildings continue to decrease the scale of the new parts and harmonize with other parts of the neighborhood.

Courtyards in the exhibition section provide visitors more additive perceptions in the museum. During the rainy season, rain drops slide down from eaves and fall into the courtyards and tea house platform area. They create varied tones as they hit the local flagstone ground. What a muse the nature plays that entertainment everyone, an emotional kind music without the boundary of country/nation. This hearing enjoyment, mixing with the subtle

vision beyond the Humble Administration garden and the scent of the rain and greens, allows people to use their different human senses to feel/search the local art, traditions and culture.

In the redesign work, Suzhou local plants and flowers are introduced into museum's courtyards and the garden area to increase one's visual and additive perceptions. They not only can deliver varied scents and colors to the space, but also represent local culture and life style. *La mei*, the waxy plum blossom, is a popular winter



Rocks and Plants in the Corner of Courtyard

plant in Suzhou. The *la mei*, has a deep jasmine-like scent. All varieties of *la mei* are perfumed and most famous one was called *tan xiang la mei* (sandalwood-scented waxy plum blossom). When the *la mei* blossoms in later winter and earlier spring, the space will be painted in yellow. After the plant flowers, its broad leaves provide a mass of green in the later spring and summer.

The blossoms of *yu lan*, magnolia, indicates the coming of Spring into Suzhou. The white color and elegant shape of the flower make it as a symbol of purity. The *yu lan* plants are widely decorated within houses. In the garden space, the *yu lan* usually becomes a focal point in the courtyard. This is because of the visual effect that a cloud of white blooms against the silvery bark in spring.

Bai lan hua, the white orchid flower, is one of the favorite flowers to Suzhoueness in summer. Just like Hawaiians loves hibiscus, Suzhou women loved to put this white orchid flowers in their hair, or hang them on the clothes. These flowers are closely related to the

magnolias, but are smaller, creamy yellow-white and dramatically fragrant. Being similar to *Bai lan hua*, *mo li* (jasmine) flowers can be found in women's weaved hair. The *mo li* blossoms throughout the spring until the fall in Suzhou.

Appreciating the *ju hua* (chrysanthemum) becomes the main family activity of Suzhouness in the fall. The *ju hua*'s flowering season lasts for the whole autumn, which is a season when everything else is almost dying off. Being a potted plant, the variety of forms and colors of *ju hua* make it the most popular ornamental flowers in the interior space. When comes to the end of the fall, the potted *shui xian* (narcissus) will replace the *ju hua* in rooms. Most Suzhou families start to cultivate *shui xian* at home in later fall and earlier winter. This plant grows rapidly and the appearance of intensely fresh-smelling blooms can last for the whole winter, which makes it a symbol of regeneration.

Some plants in Suzhou may not occupy as the prominent place in the artistic tradition as bamboos or banana trees, but their appearance in museum space can present the identity of local culture. The *yin xin*, ginkgo, Chinese named as sliver almond, exhibits its charming poses in the fall. These trees, with their airy, split, fan-shaped leaves and unusual branching pattern, are to be seen not only along city streets, but also in many of gardens. The golden color of leaves in the fall brought a dramatic feeling in aesthetic of space. Besides ginkgo, Suzhouness can never live without maple trees. Enjoying the red maple leaves is another important family activity in the fall. The falling down leaves paved on the ground not only creates a red carpet, but also delivers a poetic atmosphere to the space.

The redesign also focuses on creating a universal space. The interior walls, windows and doors along the corridors employ Suzhou local bricks and wood of the natural cyan and dark red colors, which contrast with the white walls in the exhibition rooms (F09). All new added galleries and courtyards have sizes similar to the existing buildings and courtyards,

small but humanized. The layout of the exhibition section and facilities/staff section are designed in straight forms and lines, while the social/relaxation section is endowed with natural forms and curved lines. Flowers, trees, and shrubs planted in the courtyards introduce nature into the exhibition area. Moreover, circular wall windows and the curved corridor soften the rigid feeling of straight forms.

The redesign also pays attention to the role of traditional furniture in achieving a unity of space.⁹ Some pieces are put next to the circled opening to display the traditional instrument in the gallery. Some are holding other exhibited art works. Besides the role for displaying and appreciating, some other furniture pieces are employed in the balcony or in courtyards. They not only enhance the aesthetic elements in the space, but also provide visitors a place for relaxing.

Because lots of traditional structural and decorative elements that contain the similar visual effects as existing historical buildings are employed in the redesign work, it's necessary to tell the difference between the old and the new parts through appreciate design methods. To differentiate the new parts from the existing buildings, especially in the gallery section, all walls in new built parts will show their patterns and texture of different materials either interior or exterior; while walls of the existing buildings would still be remained in traditional white washed style. The floor design is another major method to tell the old and the new parts. Although it does not apply to all new built space, the interior of new galleries will be paved with black marble in center with white on four sides. The exterior space will decorate the stone slabs and cyan blue bricks in 12 inch by 12 inch size.

⁹ a unity of space refers that physical aspects become resonant with the meaning when they are placed in the cultural context of the symbiotic relationship of architecture and furniture.

Conclusion

Through the research work on emotional space in Chinese architecture and its application to the New Suzhou Art Museum project in Suzhou, China, I think this research project reaches its initial goal that the emotional design strategy not only provides an alternative approach to preserve the unregistered historically valuable buildings, but also helps to incorporate the old in the contemporary life needs.

The research process started with the work on studying the history and background of Chinese museum, collecting the data, documents, materials about New Suzhou Art Museum project, as well as I. M. Pei's design work. Then the work extensively investigated scholarly and scientific research about the concepts of space and emotional space. The methods used to achieve emotional space in Chinese garden space were further explored; while compared to the traditional Western garden space built methods. Finally, based on previous research material and data, the qualities of emotional space and how these qualities can be obtained were summed up. They were applied into the redesign work of the New Suzhou Art Museum project.

Several problems appeared and pulled me away from my research goal during the whole process. The first problem was the waste amount of research material and data that actually did not relate to the topic of emotional space. Giving more attention to Western views of emotional space instead of emotional space only in the Chinese context became the second problem to the research work. The last big problem is that the writings didn't structure well although all resources and analysis were already there.

However, I gained a lot through all problems and troubles I met during the research process. It turned out that this was a successful research. I found that emotional elements ex-

ist throughout the world. It is not the sole product of traditional Chinese spaces. Western spaces can deliver the similar feelings and moods as Chinese spaces to viewers in different emotional elements and design methods. Another finding from the research work is that composition of different emotional spaces should be understood in the context of different history, culture, religious, and custom. The recognition of emotional space in certain area and country cannot be separated from its context.

I hope my research products can be used not only by Chinese historic preservationists, but also by Chinese architects who will work with redevelopment projects because many of them are not aware of the possibility to use emotionally driven design approach to balance the old and the new in redevelopment projects. To introduce my thoughts to more people, I will try to apply the research results into real Chinese projects in future. I also hope my research on emotional space is not an end, but a starting point for other people to look at varied emotional elements worldwide so that all findings of emotional elements can help solve the problems in redevelopment projects.

The research work evokes many other questions: whether the design work should build relationships to guide visitors to enjoy the local culture and traditions through the space, or whatever should it provide emotional connections in the space to allow visitors to experience, explore and perceive the relationships with existing environments? Who decides the final form and style of the buildings: the architect, government, or local people? What can ensure a continuance of the life and time of a building? These are all topics that need to be further explored.

After I reviewed all the research stages again, I think I got most accurate research results through reading, comparing, and analyzing other scholars' assumptions, conceptions, and research products. I would concentrate and devote more time on emotional qualities and

emotional elements in Chinese space if I could start over from knowing what I do now. My current research products were solely drawn from Chinese scholar garden spaces. I hope I can further look at Chinese religious and imperial spaces.

Emotional space not only provides built environments the timeless quality, but also provides one with affective experiences to the living environment. With this timeless quality and affective experiences, emotional space can help in incorporating the old structures and environments into the new structured world, balancing the old and the new. There is no rule for designing emotional space, because emotional elements are in every corner if one could see and feel them. The designer should find unique expression to achieve the qualities of emotional space.

Appendix: A Note on Chinese Names

I have employed the *pinyin* system to transliterate all Chinese words, with the exception of a few extremely common conventions, such as Tsz-tong (PY: Ci Tang). I have also included a term-list for most Chinese names, since many scholarly books, including a number of valuable English-language reference works, have yet to be converted to the *pinyin* system.

In the text, Chinese names usually appear in their original order, with the family name first. In the notes, however, I have followed Western traditional habit for the reason of clarity. Most Chinese family names consist of one character, while most given names are composed of two (e.g., Zhang Lvqian).

Emperors in the Qing dynasty are usually referred to by their reign names (*nianhao*) rather than by their personal names (which became taboo upon their accession to the throne). All reign names have felicitous meanings, but some, such as Guangxu (“Glorious Succession”), have a certain irony.

Appendix: The Chinese Legislation of Historic Preservation (selected)

Principles for the preservation of Heritage Sites in China

In Chapter 1 of General Principles, article 1 defines Heritage Sites in China: “These Principles can serve as **guidelines** in conservation practice for everything commonly referred to as heritage sites. **Heritage sites** are the **immovable physical remains** that were created during the **history of humankind** and that have **significance**; they include archaeological sites and ruins, tombs, traditional architecture, cave temples, stone carvings, sculpture, inscriptions, stele, and petroglyphs, as well as modern and contemporary places and commemorative buildings, and those historic precincts (villages or towns), together with their original heritage components, that are officially declared protected sites.”

Article 2 defines conservation and states the purposes of China principles.

Article 4 states the manner of usage of heritage sites: “Heritage sites should be used in a **rational manner** for the **benefit of society**. The values of the site should in no way be diminished by use for **short term gain**.”

Article 5 states the approach of preservation: “Conservation needs to be carried out according to a **sequential process**. Each step of the process should **comply** with the **pertinent laws and regulations** and should observe professional standards of practice. Consultation with relevant interest groups should take place. The assessment of the significance of a site should be given the highest priority throughout the entire process.” In practice, the relevant experts and professionals always represent the decision makers’ opinions, because they are hired by decision makers and their future will rely on these decision makers. What about the highest priority made the wrong assessment for the site? Decision makers can always

override the preservation principles, regulations, codes that they made, especially in local cities.

In Chapter 2 -- the Conservation Process, article 9 states the steps of the preservation work: “(1) Identification and investigation; (2) Assessment; (3) Formal proclamation as an officially protected site and determination of its classification; (4) Preparation of a conservation master plan; (5) Implementation of the conservation master plan; and (6) Periodic review of the master plan. In principle, it is not permissible to depart from the above process.” However, when valuable historical buildings rather than heritages were found on the site in the practice, the first step work usually got little attention. Little time and money will be put on this step, which leads the negative impact on the assessment and later conservation steps. Article 10 defines the work of identification and investigation as “a large-scale general **survey and inventory**; an investigation of **selected sites in greater depth**; and a **detailed investigation** of the most **significant sites**. These investigations must examine **all historic vestiges and traces and relevant documentation**, as well as the **immediate setting**.” The real preservation work usually lacks a detailed investigation of significant sites, such as the examination of all historic traces and the immediate setting.

Article 13 explains the conservation master plan as follows: “The preparation of a conservation master plan for the site must be based on the **results of the assessment**. The master plan should first set forth the **main conservation goals**, along with the **appropriate conservation measures** to achieve them. A typical master plan includes strategies for the following four components: **Conservation measures, appropriate use, exhibition and interpretation, and management**.” Even if assessment is correctly done, sometimes the conservation work fails due to inappropriate conservation measures, such as the relocation of valuable remaining. The management of historic sites is another big problem in Chinese conservation work. This Article further points out that the conservation master plan should

comply with the local official development plan: “All conservation master plans, especially those for historic precincts (villages or towns), should be closely **coordinated with** the local **official development plan**. After approval procedures for these conservation master plans are completed in accordance with the law, they should be **incorporated into** the local **urban or rural development plans**.” The issue here is which plan has priority in actual practice: The conservation master plan or the local official development plan? If the local official development plan is a healthy and sustainable development plan, the conservation master plan should serve the whole city’s development goals.

Article 15 states that “The conservation master plan should be **reviewed periodically** in order to evaluate its **overall effectiveness** and to **draw lessons** from the experience gained in the course of its implementation. If **deficiencies are discovered** or **new circumstances arise**, then the original master plan should be **revised accordingly**.” In practice, the preservation work usually lacks any periodical review of the conservation master plan. When the plan is approved, it is simply carried through without regard to any new circumstances which might arise to block certain developmental goals.

Article 16 states: “The conservation master plan and action plans for **major interventions** should be **reviewed and appraised** by a **committee of experts** drawn from relevant professions.” The issue here is who will be in the committee of experts and which professions they are represent.

In Chapter 3 — Conservation Principles, Article 18 clarifies the situations for the relocation activity: “Conservation must be **undertaken on site**. Only in the face of **uncontrollable natural threats** or **when a major development project of national importance is undertaken and relocation is the sole means of saving elements of a site** may they be moved in their historic condition. Relocation may only be undertaken after **approval in**

compliance with the law.” Decision makers usually cite this Article to relocate the historical structures by claiming that it is the sole means of saving elements of the sites. The law, regulations, and codes indicate that higher authorities (such as local relevant governmental departments) have the right to override the law, regulations, and codes when they feel it’s necessary.

Article 19 explains how to intervene on historic sites: “Intervention should be **minimal**. Apart from routine maintenance, there should be no intervention on parts of a building or site that are not at **imminent risk of serious damage**. Intervention should only be undertaken when absolutely necessary and even then should be kept to a minimum. **The main goals of conservation and management measures** are to **preserve the site’s existing condition and to slow deterioration.**”

Article 24 gives the treatment of settings for historic sites: “The setting of a heritage site must be conserved. **Natural and cultural landscapes** that form part of a site’s setting contribute to its **significance** and should be **integrated with its conservation.**” It should be noted here that those settings that can contribute to the significance to heritage sites must be conserved.

Article 25 and Article 33 in Chapter 3 —Conservation Interventions define the reconstruction work for historic buildings: “A building that **no longer survives should not be reconstructed**. Only in specially approved cases may a select **few of such former buildings be reconstructed** in situ. This may occur only where there exists **definite evidence** of existing buildings that has been confirmed by experts. Reconstruction may only be undertaken after the approval process has been completed in compliance with the law and permission has been granted. Reconstructed buildings should be clearly marked as such.” “Reconstruction in situ is an exceptional measure undertaken only in **special circumstances**. When

approval has been given to undertake reconstruction in situ, **priority** should be given to **conserving the remaining ruins** without **damaging them** in the process. Reconstruction must be based on **direct evidence**. **Conjectural reconstruction is not permitted.**” However, too often, Chinese conservation projects treat this Article too seriously. The requirement of definite evidence is also misunderstood by decision-makers. Some projects even reconstructed former buildings in a newly designed site plan.

In Chapter 5 — the Additional Principles, Article 37 gives other applicable places for using this set of Principles: “These Principles may further be drawn upon in the development of conservation guidelines for **cultural and historic landscapes** in designated **scenic areas** and “**Historically and Culturally Famous Cities**”, as well as for underwater sites.”

Law of the People’s Republic of China on the Protection of Cultural Relics

This law was passed on Oct. 28, 2002

In Chapter 1 — general law, the Article 1 explains the purpose for the protection law: “For the purposes of strengthening the protection to cultural relics, inheriting the cultural heritages, improving scientific research, as well as giving the education on **the national spirit**.”

Article 2 lists the content under the protection, which includes “historic buildings with value in history, art, and science; historic sites relating to significant historic events and persons; representative objects reflecting the social life and system in earlier eras.”

Article 3 implies that all historic buildings, historic sites, and modern historic traces and representative buildings should be defined as unmovable cultural relics. They can be listed in “national heritage units, provincial heritage units, city heritage units and county heritage units, depending on their values.”

Article 4 states the guideline for the protection work: “Focus mainly on protection, save first, use appropriately, and management of the building work.”

In Chapter 2 — Unmovable Cultural Relics, Article 18 states: “New construction projects should not destroy the historic features of heritage units and they should be approved by the local Department of Cultural Relics, as well as the local Department of Construction and Planning.”

Article 20 states the consideration for site selections for new construction projects and explains the relocation and deconstruction activities on cultural relics sites: “Site selection for the new construction should avoid the unmovable cultural relics. If the new construction has to occur on sites with cultural relics, the preservation work of these cultural relics should be undertaken on site. Permission from the provincial level authorities, as well as the State Cultural Relics Bureau, should be obtained for the relocation and deconstruction of cultural relics. The deconstruction of national heritages is prohibited. Permission from the State Department should be obtained for the relocation of national heritages.”

Implementing Regulations of the People’s Republic of China on the Protection of Cultural Relics

The implementing regulations were passed on July 1, 2003

In Chapter 1— General Regulations, Article 3 defines the usages of income from government-supported museums in China: “1) Storage, keeping, exhibition, repair, and collection of cultural relics; 2) Restoration, maintenance and construction of the museum structures; 3) Protection of cultural relics; 4) Archeological investigation, excavation, and survey; 5) Scientific study and education for cultural relics protection.”

In Chapter 2 — Unmovable Cultural Relics, Article 13 explains the construction of a controlled area of heritage units: “The purpose of constructing a controlled area is to ensure that new construction activities will not have a negative impact on the heritage units’ security, as well as to preserve the historic environment and historic features.”

Local Level:

Regulations of Jiangsu Province on the Protection of Cultural Relics

The regulations were passed on Jan. 1, 2004

In Chapter 2 — Unmovable Cultural Relics, Article 7 regulates the new construction in historical and cultural districts: “Approval from the local Department of Cultural Relics should be obtained for the new constructions.”

Article 12 states: “The projects should harmonize with the settings and historic features of heritage units. Any negative impact on heritage sites is prohibited. Approval from the local Department of Cultural Relics, and the permission from local Planning Department should be obtained for the project’s design plan.”

Article 13 explains the treatment for on site unmovable cultural relics that have not been recorded by and registered with the local government: “If unmovable cultural relics and

their annexes that have not been registered with and recorded by the local government were found during the deconstruction and removal process, the new construction should immediately stop. The protection work should be done on site, and should be reported to the local Department of Cultural Relics.”

Article 14 considers site selections for new construction projects and explains the relocation and deconstruction activities on cultural relics sites: “Site selection for the new construction should avoid the unmovable cultural relics. If the new construction was to occur on site with cultural relics, the preservation work of these cultural relics should be undertaken on site. Permission from the provincial level authorities, as well as the State Cultural Relics Bureau, should be obtained for the relocation and deconstruction of cultural relics. The deconstruction of national heritages is prohibited. Permission from the State Department should be obtained for the relocation of national heritages. Approval from local Department of Cultural Relics should be obtained for the relocation of the unmovable cultural relics that are not listed as protected objections. Approval from the provincial Department of Cultural Relics should be obtained for the deconstruction of these unlisted relics. There should be a relocation and protection plan established for the relocation for unmovable cultural relics. Surveys, text recordings and videos should be employed for documentation work.”

In Chapter 5 — Article 33 in Utilization of Cultural Relics points out that “the principle for utilization is sustainability. Utilization of the Cultural Relics should improve the living environment, and encourage the social and economical development.”

Regulations of Jiangsu Province on the Protection of Historically and Culturally Famous Cities and Towns

The regulations were passed on March. 1, 2002

Article 3 in Chapter 1— General Regulations lists the content for protection: “1) Integrated city/town space and environment, including the city/town pattern, integrated features, historical context, and city/town space and environment; 2) Historic districts and underground cultural relics; 3) Valuable historical cultural sites, historical tombs,...historical buildings, earlier modern significant traces and representative buildings, as well as old trees, water systems, villages, and **physiognomy**; 4) Intangible and oral cultural heritages: City/Town’s historical evolution, traditional art, crafts, industries, and folk customs.

Article 4 states that the principles for the protection of historically and culturally famous cities, towns, and districts as “Consisting of planning, effective protection, appropriate utilization, and scientific management. The work should consider the following relationships: Protection and utilization, Inheritance and development, historical preservation, economic construction and social development.” The guideline for the protection mainly focuses on “protection and saving the historical and cultural relics.”

In Chapter 4 — Measures of Protection, Article 23 points out that “the land utilization and new constructions within historically and culturally famous cities, towns, and districts should be in accordance with the regulations on protection and planning.”

Article 24 regulates new construction activities in historically and culturally famous cities, towns, and districts: “Projects and constructions should follow the requirements and regulations from the local Planning Departments. All on-site cultural heritages, surrounding old trees, water systems, and **physiognomy** should be protected. If cultural relics and their annexes were found during the deconstruction and removal process, the new construction should immediately stop. The protection work should be done on site, as well as report it

to the local Department of Cultural Relics.”

Article 26 defines the relocation and deconstruction activities in historically and culturally famous cities, towns, and districts: “The relocation and deconstruction of cultural relics are prohibited. If there is a special need for certain projects, permission from the provincial level authorities, as well as the State Cultural Relics Bureau, should be obtained for the relocation and deconstruction of cultural relics. The deconstruction of national heritages is prohibited. Permission from the State Department should be obtained for the relocation of national heritages. Approval from local Department of Cultural Relics should be obtained for the relocation of the unmovable cultural relics that are not listed as protected objections. Approval from the provincial Department of Cultural Relics should be obtained for the deconstruction of these unlisted relics. There should be a relocation and protection plan established for the relocation for unmovable cultural relics. Surveys, text recordings and videos should be employed for documentation work.”

Regulations of Suzhou on the Protection of Historical Architecture

The regulations were passed on Jan. 1 2003

Article 3 defines historical architecture: “Historical buildings refer to those buildings and structures that have not been listed as protected. They are 1) Residences, temples, family memorial places, Yi Zhuang, torii, bridges, city walls, and old wells that constructed before 1911 and have values in science, history, and art. 2) Significant architectural and personal residences that were constructed before 1949 with important memorial and educational meanings.”

Article 11 defines the relocation and deconstruction activities in historically and culturally

famous cities, towns, and districts: “The relocation and deconstruction of cultural relics are prohibited. If there are a special need for certain projects, permission from local Department of Cultural Relics, as well as the local Planning Department should be obtained for the relocation and deconstruction. There should be a relocation and protection plan established for the relocation for unmovable cultural relics. Surveys, text recordings and videos should be employed for documentation work.”

Article 12 explains “If there were historical buildings found during the deconstruction and removal process, the new construction should immediately stop. The protection work should be done on site, and should be reported to the local Department of Cultural Relics.”

Except for China Principles, other laws, codes, and regulations are extracted from the book “The Guideline for the Protection work of Suzhou Cultural Relics” Suzhou Department of Cultural Relics, December, 2003 (unpublished)

Bibliography

- Acker, A. Tao the Hermit: Sixty Posems of Tao Qian London and New York: Thames and Hudson, 1952.
- Albert Mehrabian, “Public Places and Private Spaces” (New York: Basic Books), previously published in New York Affairs, Winter 1977.
- Alexander, Christopher. The Timeless Way of Building, Oxford University Press, USA, 1979
- Bary, W. De, Wing-tsit Chan and B. Watson, Sources of Chinese Tradition. New York: Columbia University Press, 1960, Vol.1a.
- Carmel-Arthur, Judith & Buzas, Stefan. “Canova and Scarpa in Possagno.” Four Museums. Stuttgart : Edition Axel Menges, 2004.
- Bryan, Lawson. The language of space. Oxford; Boston: Architectural Press, 2001.
- Cahill, J. Chinese Painting. Geneva:Skira, 1977.
- Cai, Zhong Qi. Introduction. A Chinese Literary Mind—Culture, Creativity, and Rhetoric in WenXin Diao Long. Stanford: Stanford University Press, 2001.
- Cao Xueqin. The Story of the Stone. Translated by David Hawkes. Harmondsworth: Penguin Books, 1973.
- Carmel-Arthur, Judith & Buzas, Stefan. “Canova and Scarpa in Possagno”. Four Museums. Stuttgart: Edition Axel Menges, 2004.
- Cheng, Zhisui. “Huainan needs Museum.” 2/3/2005 <<http://zx.huainan.gov.cn/sqmy/8.htm>>
- Cleary, Thomas F. Entry into the Inconceivable. University of Hawaii: University of Hawaii Press, 1984.
- Cohen, Nahoum. Urban planning conservation and preservation. New York; London: McGraw-Hill, 2001.
- Economic benefits of preserving old buildings: papers from the Economic Benefits of Pre-

- serving Old Buildings Conference. The National Trust for Historic Preservation, Seattle, Wash., July 31-August 2, 1975. Washington: Preservation Press, National Trust for Historic Preservation, 1976.
- Egan, Ronald C. The literary Works of Ou-yang Hsiu (1007-1072). Cambridge: Cambridge University Press, 1984.
- Fung Yu-lan, A Short History of Chinese Philosophy, trans. By D. Bodde , London, 1948.
- Grabow, Stephen. Christopher Alexander: The Evolution of a New Paradigm in Architecture, Routledge Kegan Paul, London, 1983.
- Gratz, Roberta Brandes. Living city: how America's cities are being revitalized by thinking small in a big way. Washington, D.C.: Preservation Press, 1994.
- Han, Pao-The. The Story of Chinese Landscape Design. Taipei: Youth Cultural Enterprise, 1992.
- Hollein, Hans. Metaphors et Metamorphoses, Paris: Centre Georges Pompidou, Centre de Crition Industrielle, 1987
- Huang, Chun-Chien, and Erik Zurcher. Time and Space in Chinese Culture. E. J. Brill: Leiden. New York. Koln, 1995.
- Hvtcheson, Martha Brookes. The Spirit of the Garden. Boston: Little Brown and Co., 1923.
- Ji, Cheng. Translated by Alison Hardie. The Crafts of Garden. Yale University: Yale University Press, 1988.
- Johnston, R. S. Scholar Gardens of China. Cambridge: University Press, 1991.
- Kao Yu-kung. "Chinese Lyric Aesthetics." In Freda Murck and Wen Fong, eds. Words and Images: Chinese Poetry, Calligraphy and Painting. Princeton: Princeton University Press, 1991.
- Keswick, Maggie. The Chinese Garden. New York, 1978.
- Keswick, Maggie. The Chinese Garden History, Art & Architecture. Academy Editions: London/St. Martin's Press: New York, 1986.

- Kevin Lynch, What Time is this Place? Cambridge, Mass., MIT press, 1972.
- Knapp, Ronald G., China's Houses, Homes, and Families. University of Hawaii Press, Honolulu China Institute in America, New York, 2005.
- Kuck, Lorraine. The World of the Japanese Garden. New York, 1968.
- Lama, Dalai (Trans. By Glenn Mullin), Training The Mind In The Great Way, Snow Lion Publications; 2nd Rei edition. 1997.
- Legge, James, trans. 1985. The Chinese Classics. 5 vols. Reprint ed. Taipei: Southern Materials Center. 1985.
- Li, Yu. Martin, Helmut ed. Li Yu Quan Ji. Tai pei: Chengwen, 1970.
- Lin, Yutang. The Importance of Living. New York: Jon Day, 1935.
- Liu, Cary Y., "Chinese Architectural Aesthetics." China's Houses, Homes, and Families. University of Hawaii Press, Honolulu China Institute in America, New York, 2005.
- Liu, Cary Y. "The Ch'ing Dynasty Imperial Library, Wen-yuan-ko: Architecture and the Ordering of Knowledge." Ph.D. dissertation, Princeton University. 1997.
- Luo, Zhewen. Zhewen Luo's Corpus of Chinese Cultural Historic Cities and Historic Preservation. Beijing: Chinese Construction Industry Press, 2003.
- Lu, Weixin. "The Innovation Work from Master Pei." Design Biweekly. No. 127. July 14, 2003.
- Nan, Chuan Wah. The Art of Chinese Gardens. Hong Kong: Hong Kong University Press, 1982.
- Neville, Brian and Villeneuve, Johanne. Waste-site Stories : the Recycling of Memory. Albany, NY : State University of New York Press, 2002.
- Northcott, Bayan, "Memories Regained", The Independent, May 4, 1991.
- Northcott, Bayan, "The Sound of Silence", The Independent, December 21, 1990.
- Mao, Bing. Chaos: Culture and Architecture. Shengyang, Liaoning: Liaoning Science and Technology Press, 2005
- Marilyn & Shen Fu, Studies in Connoisseurship. Princeton, N. J.: Princeton University

Press, 1973.

Maxwell, Robert. James Stirling, Michael Wilford, and Associates: buildings & projects, 1975-1992. London: Thames & Hudson, 1994.

Moris, Edwin T. The Gardens of China: History, Art, and Meanings. New York: Charles Scribner's Sons, 1983.

Mote, F.W. "The arts and the "theorizing mode" of the civilization." Artists and Tradition. New Jersey, Princeton: Princeton University Press, 1976.

"Museum for Chinese Art, Shanghai, China." Progressive Architecture, February, 1948.
Okada, Tsuneo. "Pursuit of Creation of Sustainable Architectural Space." JR East Technical Review No.4 2003: 3 <http://www.jreast.co.jp/e/development/tech/pdf_4/Tech-no.4-02-03.pdf>

Olsberg, Nicholas. Carlo Scarpa Architect—Intervening with History. Canadian Centre for Architecture. The Monacelli Press, c1999.

P. Cook. Architectural Review, March 1983.

Peixotto, Earnest. The Spirit of the Garden. Boston: Little Brown and Co., 1923.

Pevsner, Nikolaus. An Outline of European Architecture. Penguin, 1943.

Prentice, Helaine Kaplan. Suzhou: Shaping an Ancient City for the New China. Washington DC: Spacemaker Press, 1998.

Rader, Melvin. Art and Human Values. Prentice Hall, 1976.

Rodiek, Thorsten; Barker, Ilse (English translation). James Stirling--The New Staatsgalerie Stuttgart. Stuttgart: Verlag Gerd Hatje, 1984.

Ruan, Yisan. Chengshi yichan baohu lun (The Analects of Urban Heritage Conservation). Shiji Chuban Jituan: Shanghai keji jishu chubanshe, 2005

Rybczynski, Witold. Place for art: the architecture of the National Gallery of Canada. Ottawa: National Gallery of Canada. 1993.

Scarpa, Carlo, "Interview conducted by Martin Dominguez in May 1978, in Vicenza," Carlo Scarpa: The Complete Works, ed. Francesco Dal Co and Giuseppe Mazzariol. Milan: Electa, New York: Rizzoli, 1985

Semper, Gottfried. The Four Elements of Architecture and Other Writings. Cambridge

- [England]; New York, NY, USA : Cambridge University Press, 1989.
- Sepanmaa, Yrjo. The Beauty of the Environment. Helsinki: Suomalainen Tiedakatemia, 1986.
- Shao, Weiping and Liu, Yuguang. "Searching for the memory in history: review of the schematic design of the reconstruction and extension of the State Museum." Archicreation. December, 2004.
- Shen, Fu. Six Records of a Floating Life. Harmondsworth: Penguin, 1983.
- Siren, Oswald. China and the Gardens of Europe of the Eighteenth Century. New York: Ronald Press, 1950.
- Siren, Oswald. Gardens of China. New York: The Ronald Press, 1949.
- Siren, Oswald. The Chinese on the Art of Painting. Peijing, 1937.
- Smith, Richard J. China's Cultural Heritage The Qing Dynasty, 1644-1912. Westview Press: Boulder.San Francisco. Oxford, 1994.
- Stein, R. A. The World in Miniature. Stanford: Stanford University Press, 1987
- Strike, James. Architecture in Conservation—Managing Development at Historic Sites. London, Routledge, 1994.
- Suzhou Cultural Relics Department. The Guide Line for Suzhou Historic Preservation Projects Work: Maintain and Conservation. c2004.
- Suzhou Cultural Relics Department. The Manual for Suzhou Historic Preservation Work. c2003.
- Tang, Yijie; Li, Zheng, and Mclean, George F. (editor). Man and nature : the Chinese tradition and the future. Lanham, MD: University Press of America ; [Washington, D.C.]: Council for Research in Values and Philosophy, c1989.
- Tung, Anthony M. Preserving the world's great cities: the destruction and renewal of the historic metropolis. New York: Clarkson Potter, 2001.
- Waley, A. Chinese Poems London: George Aleen & Unwen, 1946.
- Wang Qijun. Zhongguo minjian zhuzhai jianzhu [The architecture of China's folk dwell-

ings]. Beijing: Jixie gongye chubanshe, 2003.

Wu, Zeseng. "The Discussion of Museum, Ethnological Museum and Nationalities Museum." 1985. 2/3/2005 <www.scuec.edu.cn/bowuguan/bwg/gtgk/gtgk3.htm>.

Yeh, Wen-hsin. Becoming Chinese : passages to modernity and beyond. Berkeley; London: University of California Press, 2000.

Ying, Zhanqun. The General Investigation Report of Suzhou Cultural Historical Structures. October, 2002.

Young, Alan. "Sustainability Challenges Architects' Creativity." Real Estate Weekly, 12/19/2007.

Zhu, Wenyi, Kongjian, Fuhao, Chengshi: yizhong chengshi sheji lilun (Space, symbol, city: a theory of urban design), Beijing: Zhong Guo Jian Zhu Gong Ye Chu Ban She, 1993.

Glossary

Ailian Shuo 爱莲说

Ba Qi 八旗

Bai lan hua 白兰花

Bai She Zhuan 白蛇传

Banting 半

Beihai 北海

Beijing 北京

Buxiu 不朽

Bu Yuan 补园

Cao Xueqin 曹雪芹

Chan 禅

Daguan Yuan 大观园

Dalai Lama 达赖喇嘛

Dao 道

Dao de jing 道德经

Daoji 道济

Deng Xiaoping 邓小平

Dongbei 东北

Fang 舫

Feng Zhi 奉直

Fusheng liuji 浮生六记

Ge 阁

Ge 个

Ge Yuan 个园

Guang Xu 光绪

Guozijian 国子监
Hangzhou 杭州
Hebei 河北
Hui Guan 会馆
Hong lou meng 红楼梦
Jiangnan 江南
Jiangsu 江苏
Jin 金
Jin ping mei 金瓶梅
Ju hua 菊花
Kong 空
Kunqu 昆曲
La mei 腊梅
Lan Tian 蓝田
Lang 廊
Laozi 老子
Lei Feng Pagoda 雷锋塔
Leifeng xizhao 雷峰夕照
Li Hongzhang 李鸿章
Li Xiucheng 李秀成
Li Yu 李渔
Liang 两
Liang Sicheng 梁思诚
Lindun Lu 临顿路
Liu Yuan 留园
Lin Yutang 林语堂
Liu Ling 刘伶

Lou 楼
Lu Yu 陆羽
Lu Yun 陆云
Lunyu 论语
Nanjing 南京
Nan Shi Pi Ji 南石皮记
Ma Lin 马林
Mei hua 梅花
Ming 明
Mo li 茉莉
Ouyang Xiu 欧阳修
Pingjiang 平江
Pingtan 评弹
Qi Biaoja 祁彪佳
Qian Long 乾隆
Qian Zhongshu 钱钟书
Qimen Lu 齐门路
Qing 清
Qing 情
San Jiao He Yi 三教合一
San yue bu shi rou wei 三月不识肉味
Shanghai 上海
Shao 韶
Shen Fu 沈复
Shen Si 神思
Shi liu 石榴
Shi qing hua yi 诗情画意

Shuer 述而
Shui xian 水仙
Shuixie 水榭
Song 宋
Suzhou 苏州
Taihu 太湖
Taiping 太平
Taiji 太极
Taiji quan 太极拳
Tan xiang la mei 檀香腊梅
Tang 唐
Tang 堂
Tao Yuanming 陶渊明
Ti 体
Tian Tang 天堂
Tianjin 天津
Ticha 体察
Tihui 体会
Ting 亭
Tiwei 体味
Tiyan 体验
Tong Zhi 同治
Tsz Tong 祠堂
Wang Shizhen 王时甄
Wang Wei 王维
Wang Xiancheng 王宪承
Wang Xizhi 王羲之

Wang Yu 王宇
Wen Zhenheng 文震亨
Wu 吴
Wu tong 梧桐
Wuwei 无为
Xia Li Ba Ren 下里巴人
Xie 榭
Xin 心
Xian Feng 咸丰
Xiang 想
Xiang Xiang 想象
Xianqing ouji 闲情偶记
Xuan 轩
Yan 言
Yang Chun Bai Xue 阳春白雪
Ye Fang 叶放
Yi 意
Yi Zhuang 义庄
Yin xing 银杏
Yinyang 阴阳
Yu Laiqiu 余兰秋
Yu lan 玉兰
Yuan Ye 园冶
Yuanxiang Tang 远香堂
Yuzhou 宇宙
Zhang Lvqian 张履谦
Zhang Qian 张谦

Zhang Zhiwan 张致万

Zhejiang 浙江

Zhong Wang Fu 忠王府

Zhou Dunyi 周敦颐

Zhu 竹

Zhu Li Guan 竹里馆

Zhuangzi 庄子

Ziran 自然

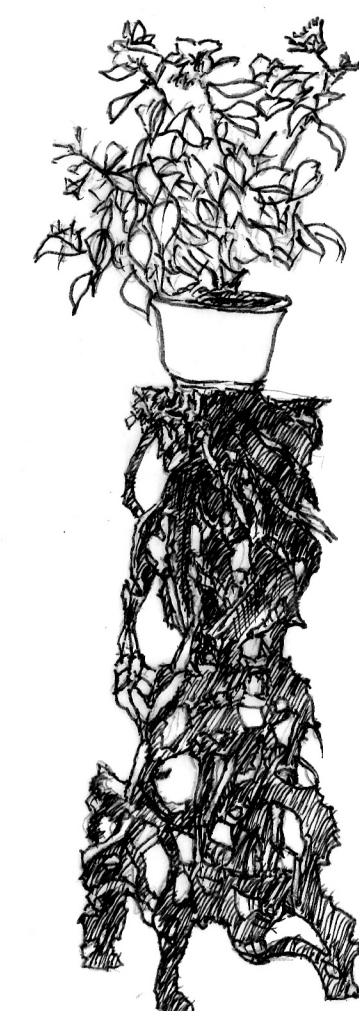
Zuozhuan 左传



8 - Different Forms of Ju Hua



7 - La Mei

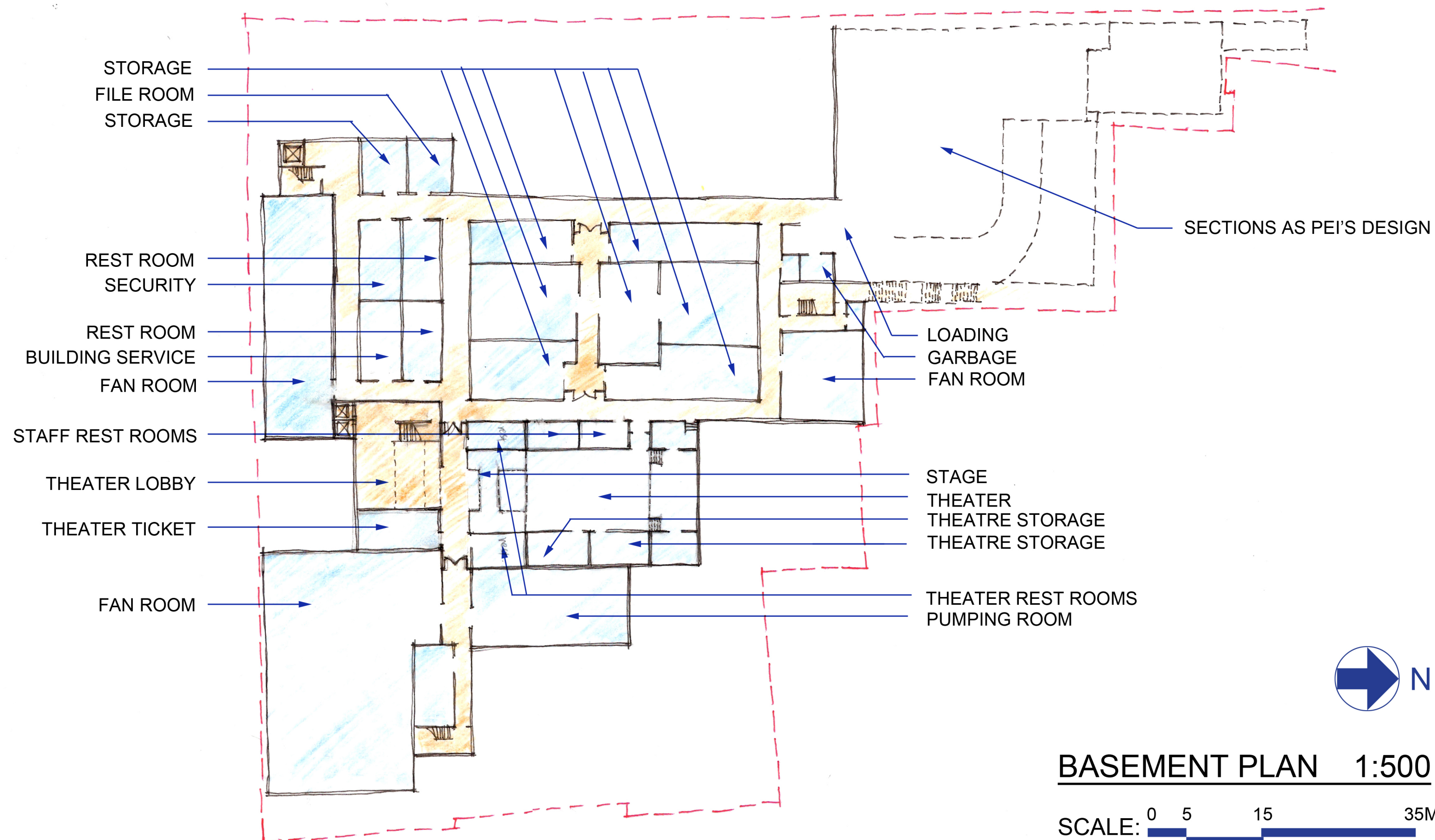


6 - Tree Trunk as Furniture



BASEMENT PLAN 1:500

SCALE: 0 5 15 35M



1 - Chinese Pink



2 - Day Lily



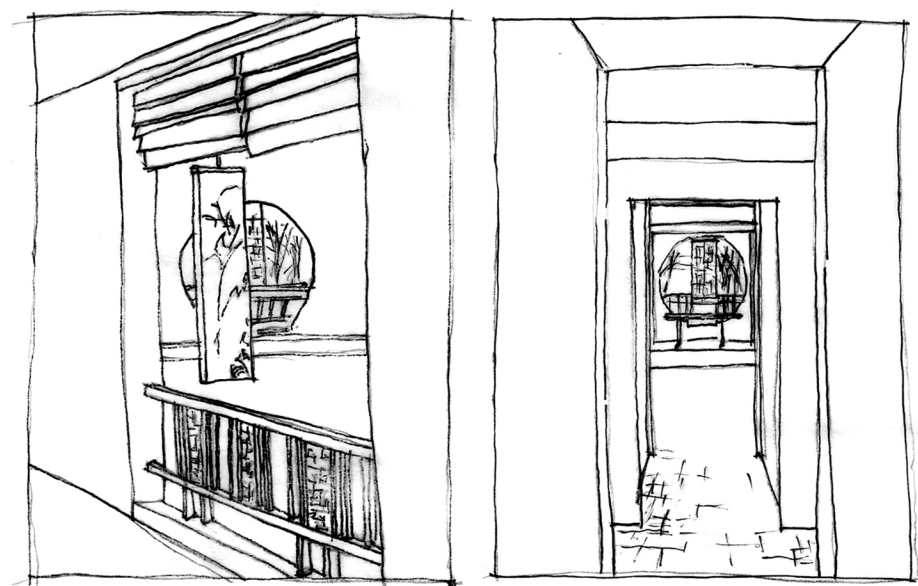
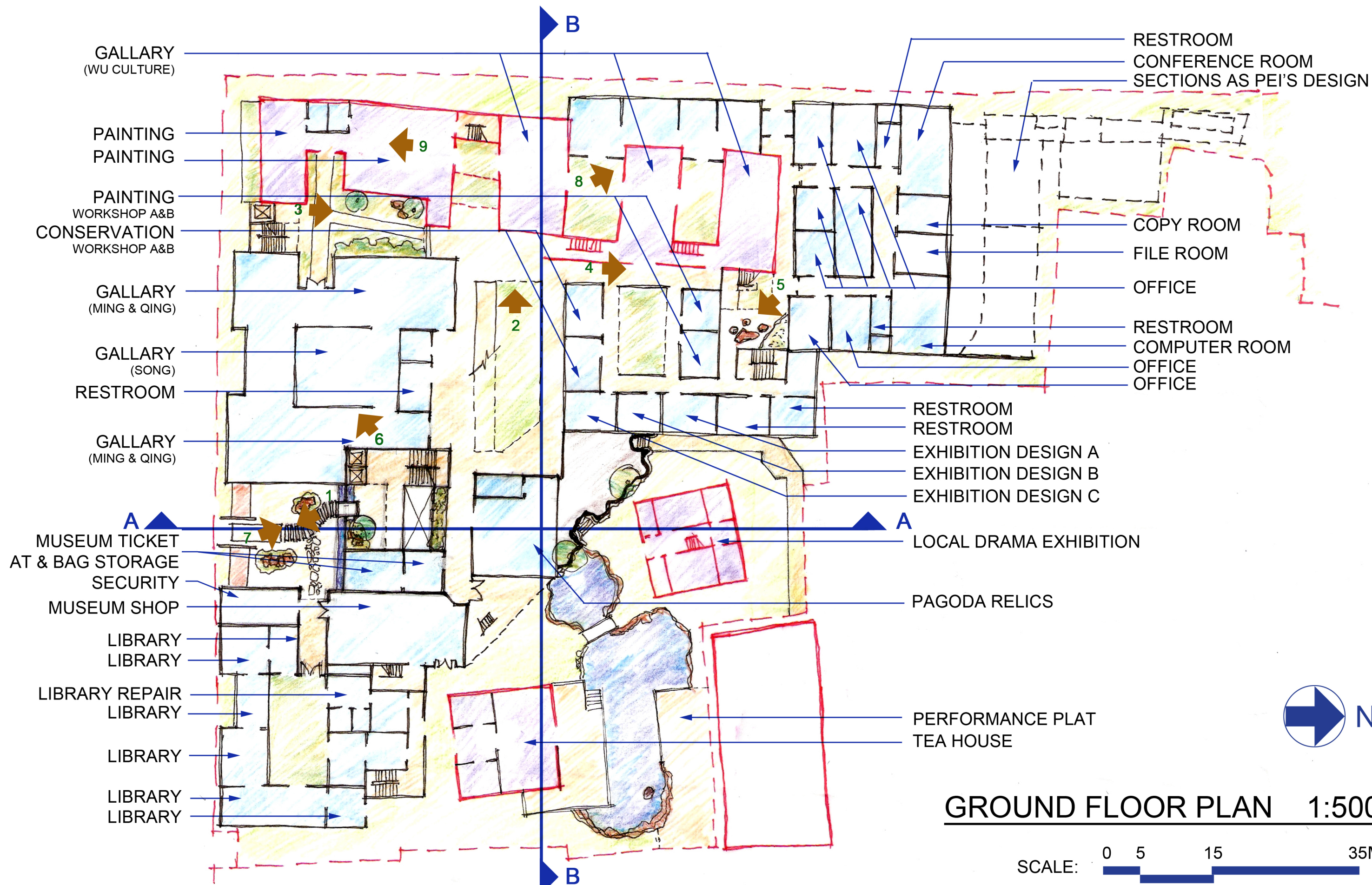
3 - Banana Tree



4 - Red Lily

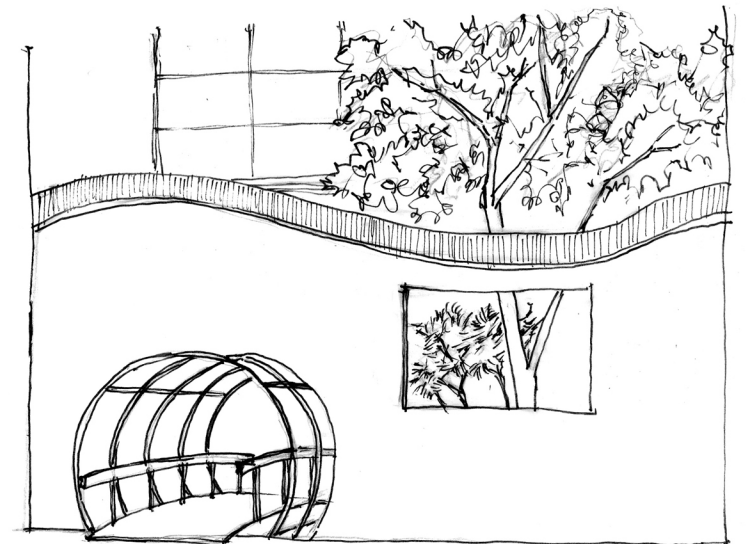


5 - Tuberose

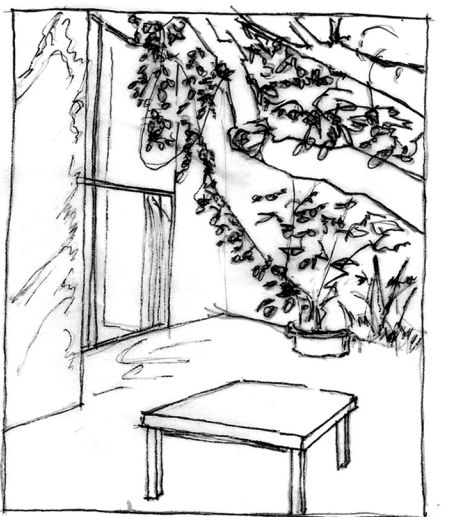


8 - Gallery wall openings

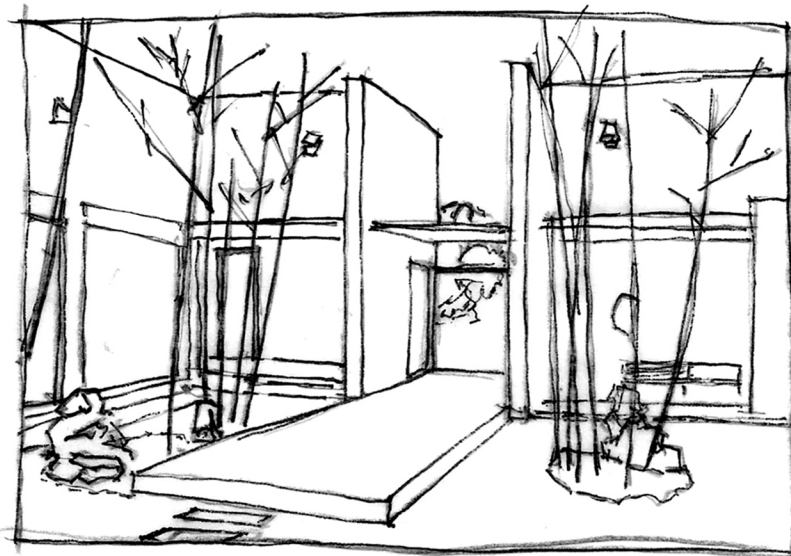
9 - Gallery space



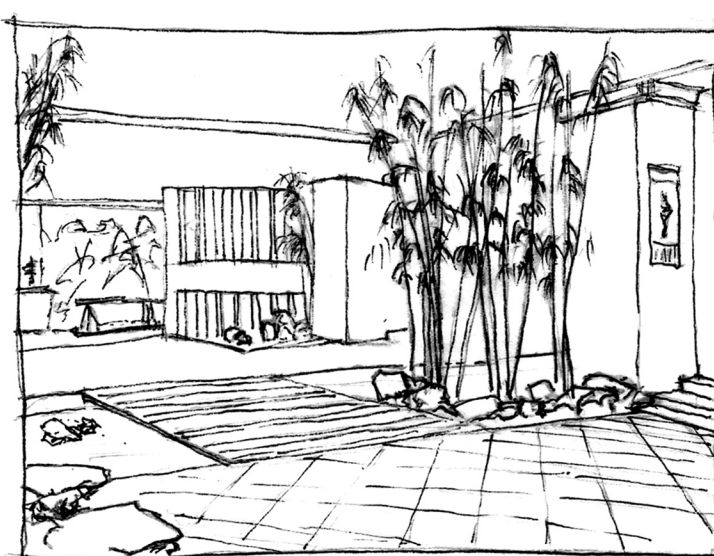
7 - Divided Wall in Entrance Courtyard



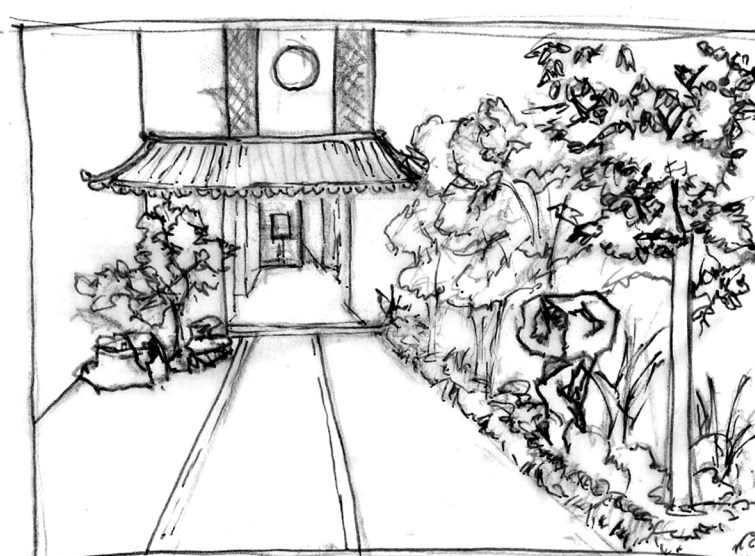
6 - Courtyard view



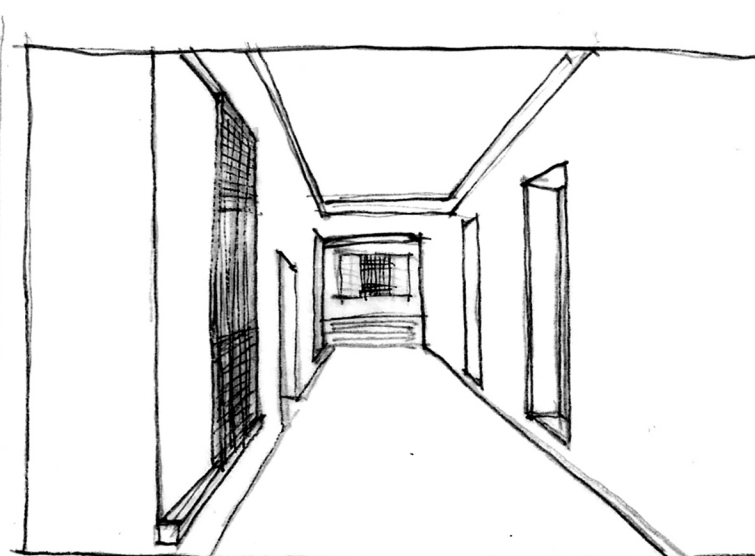
1 - Entrance courtyard view



2 - Courtyard towards gallery and hallway



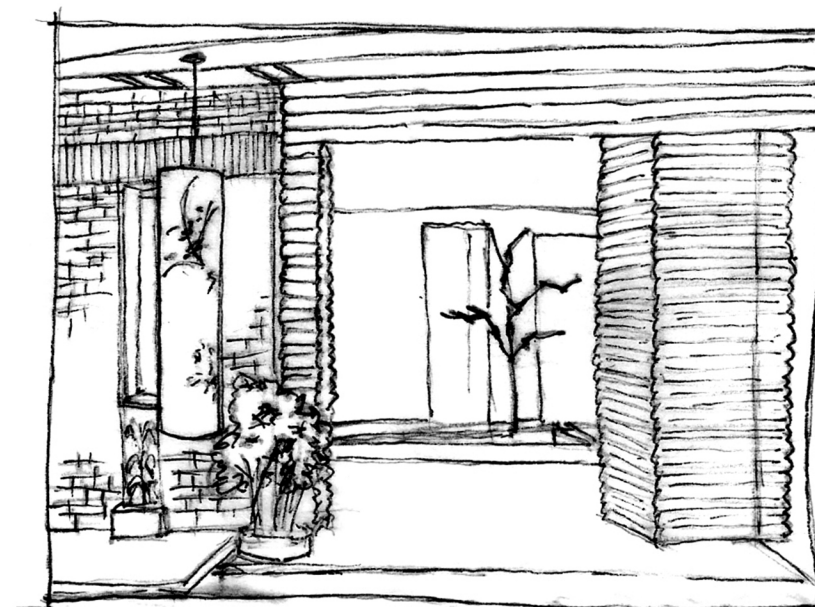
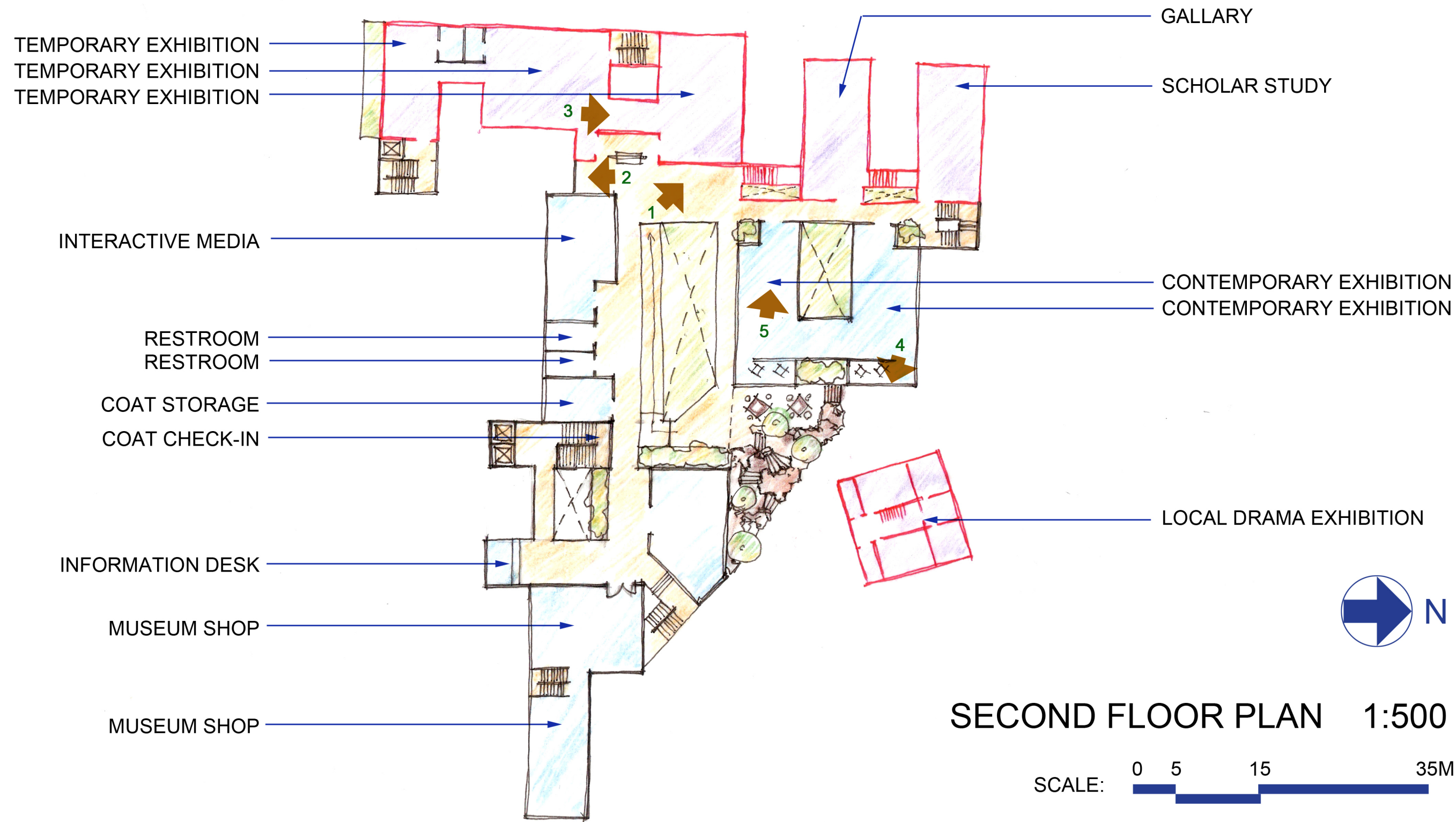
3 - View from courtyard towards gallery hallway



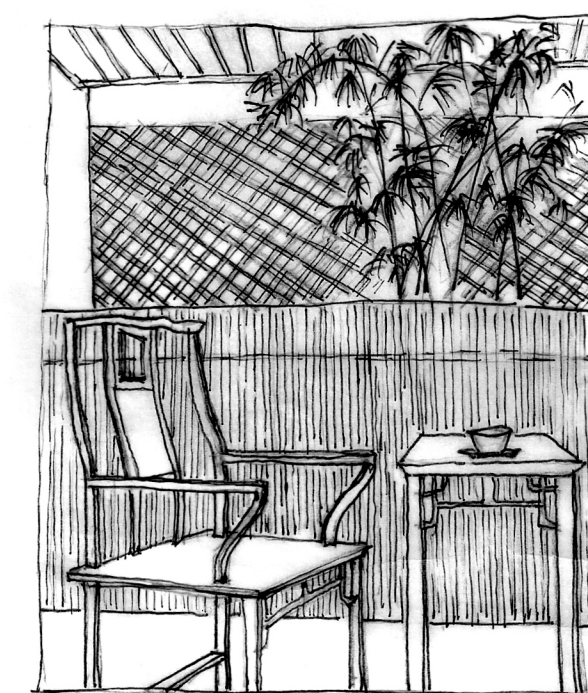
4 - View of gallery hallway



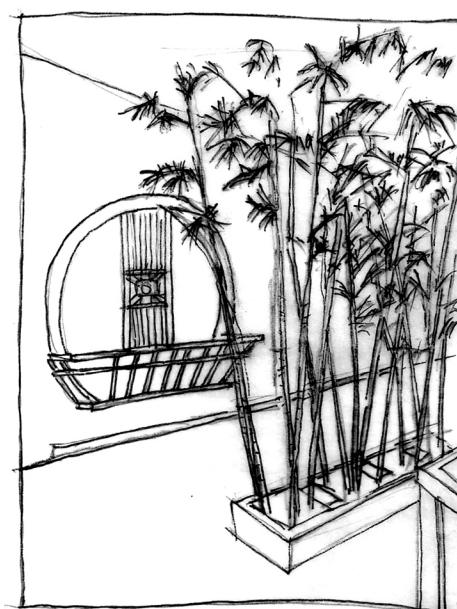
5 - Courtyard for resting



5 - Interior wall of gallery



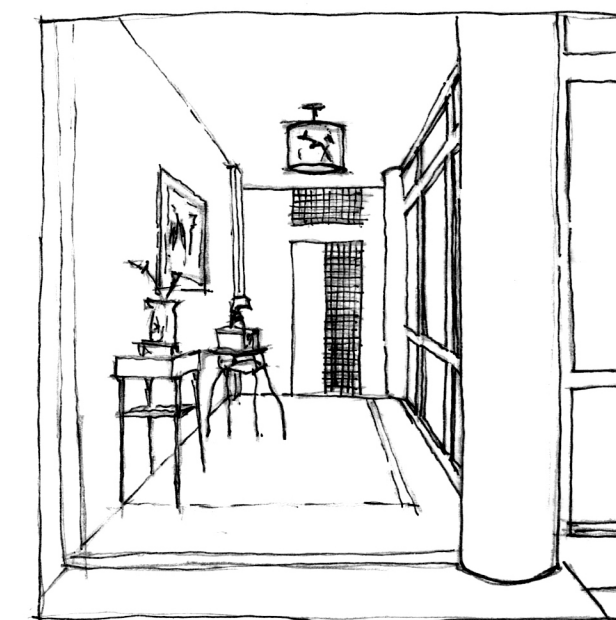
4 - Social area in gallery



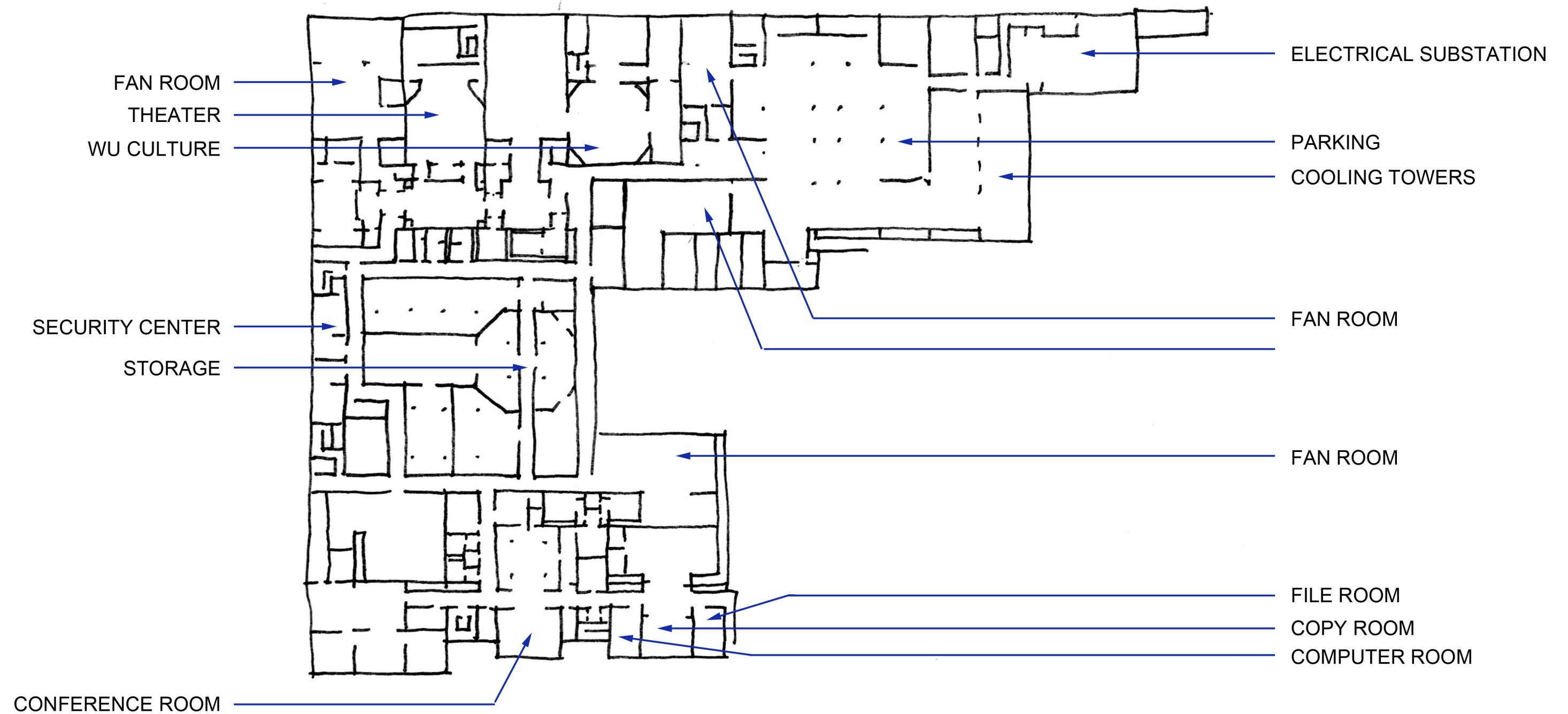
1 - Gallery wall opening and bamboo in hallway



2 - Resting area in gallery section

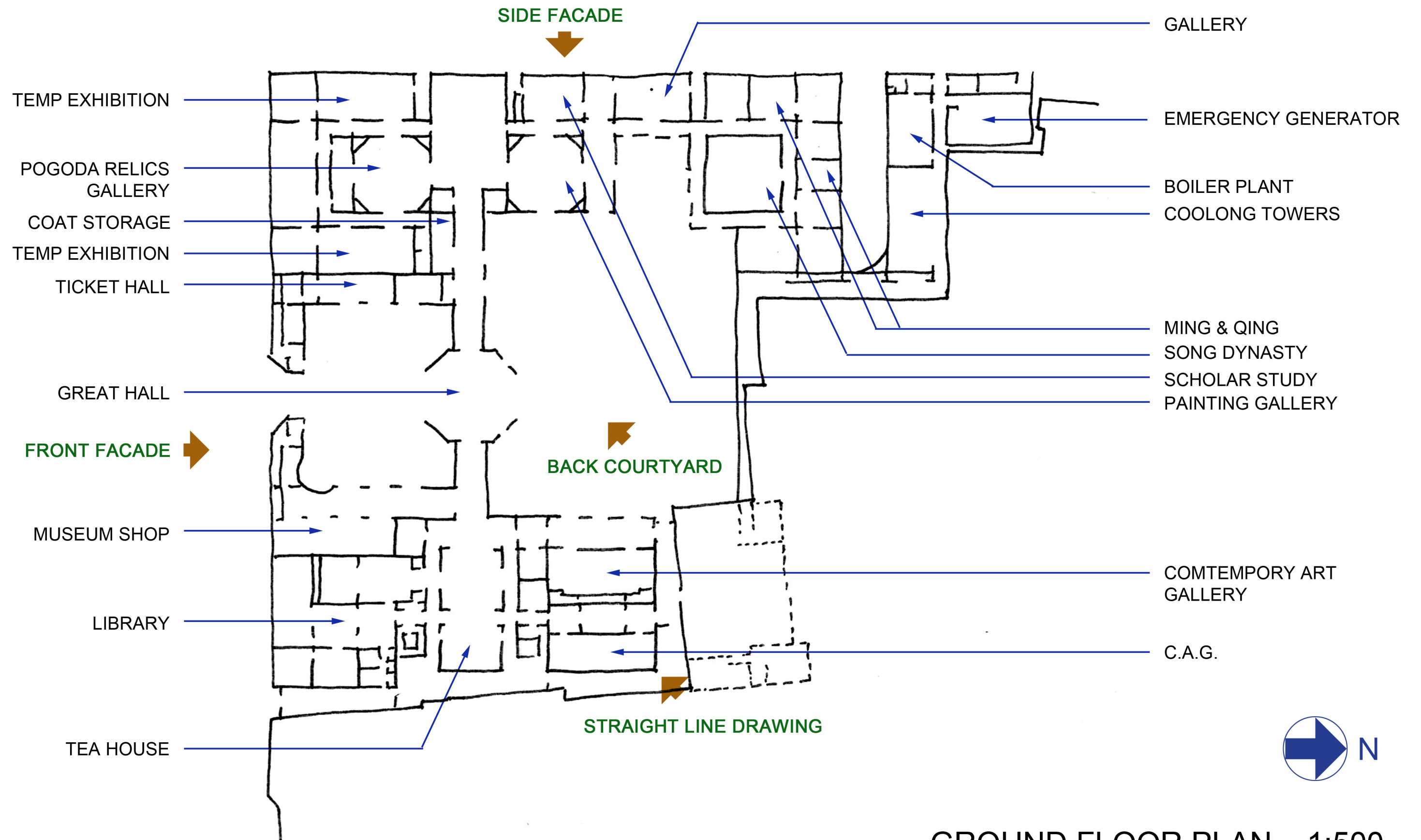


3 - Connection space between two galleries in existing buildings



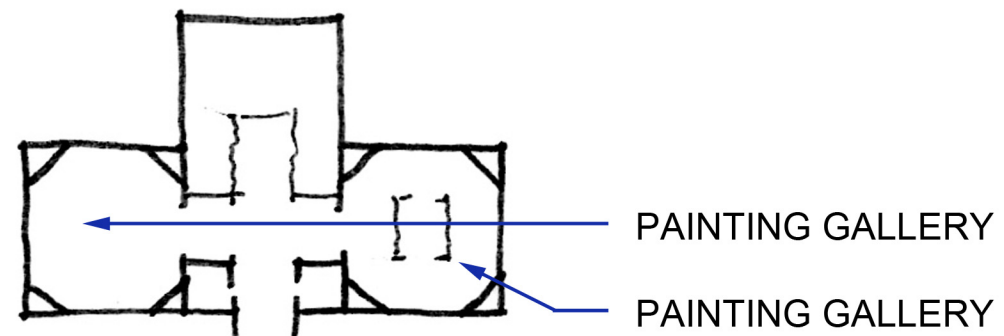
BASEMENT PLAN 1:500



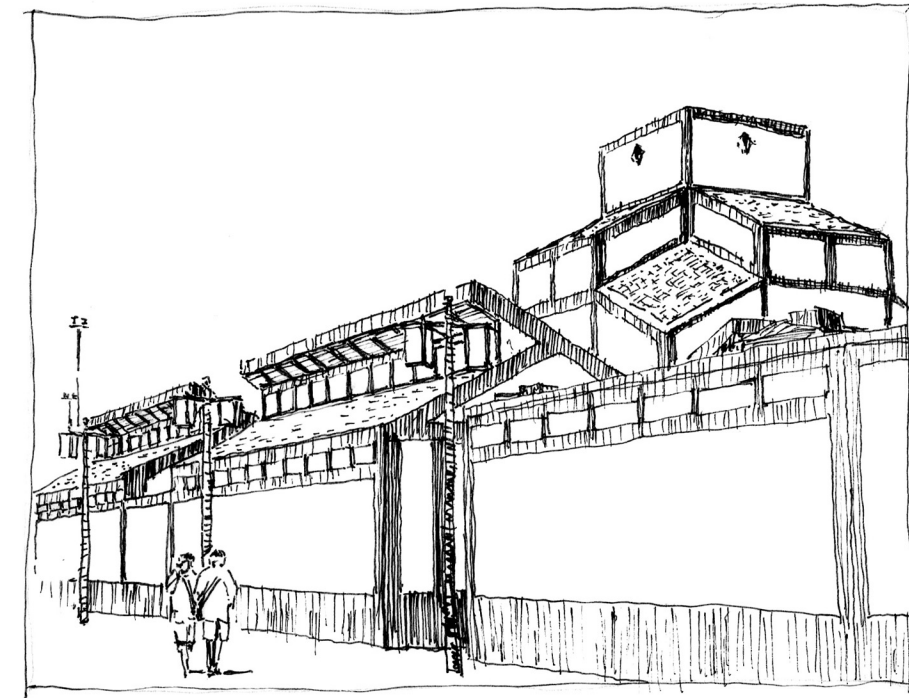
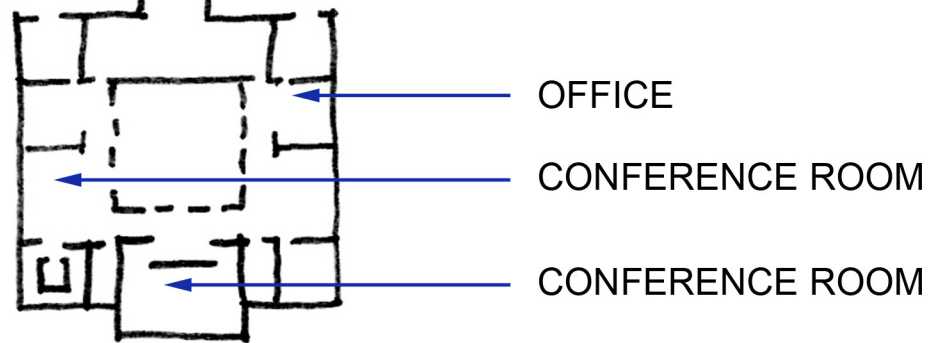


GROUND FLOOR PLAN 1:500

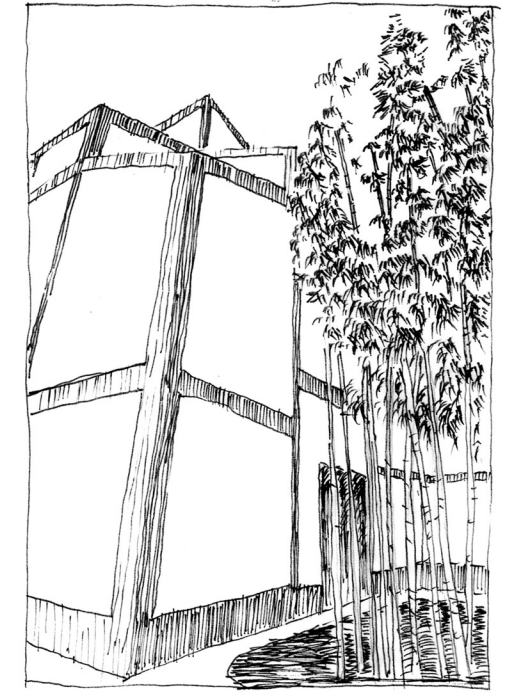
SCALE: 0 5 15 35M



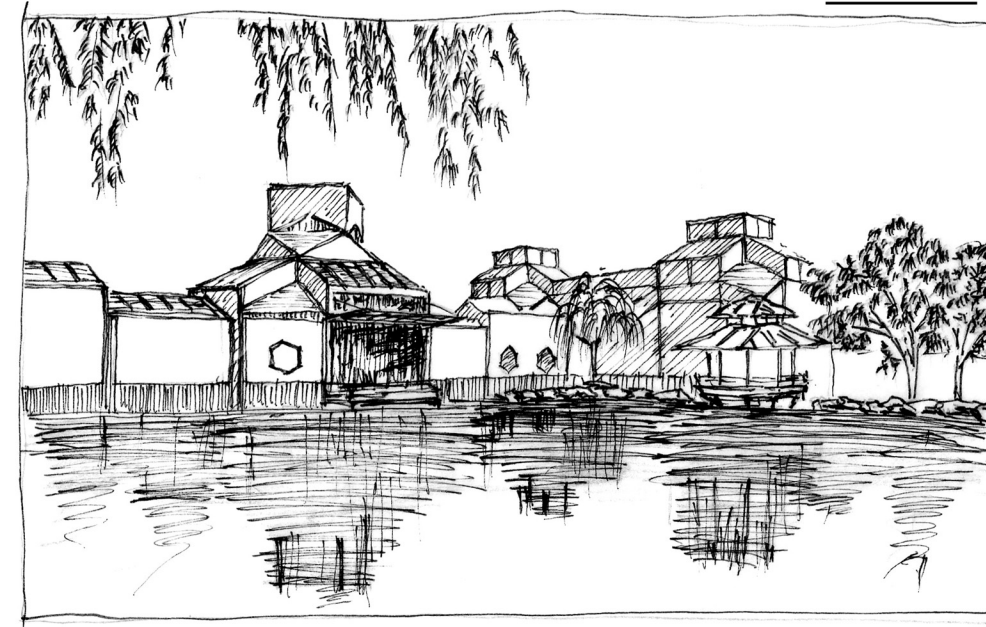
SECOND FLOOR PLAN



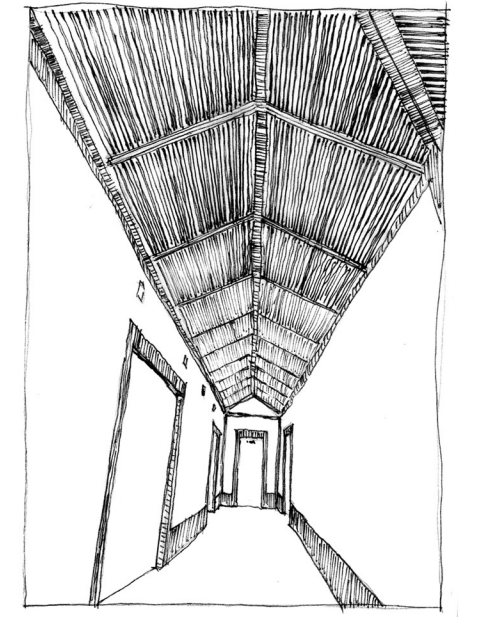
FACADE



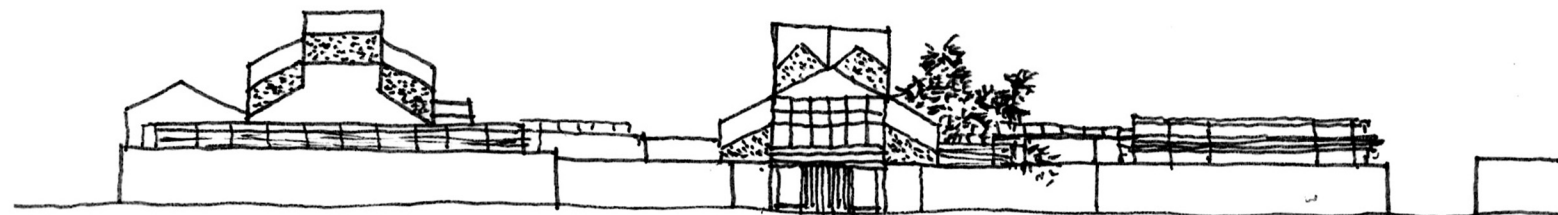
STRAIGHT LINES



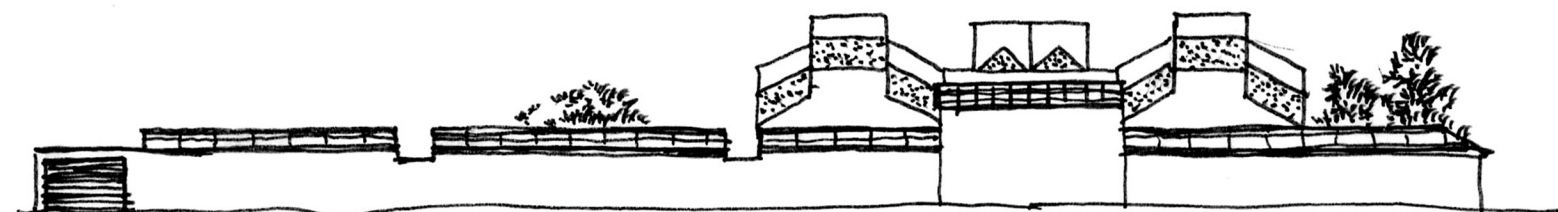
BACK COURTYARD



CORRIDOR



FRONT ELEVATION

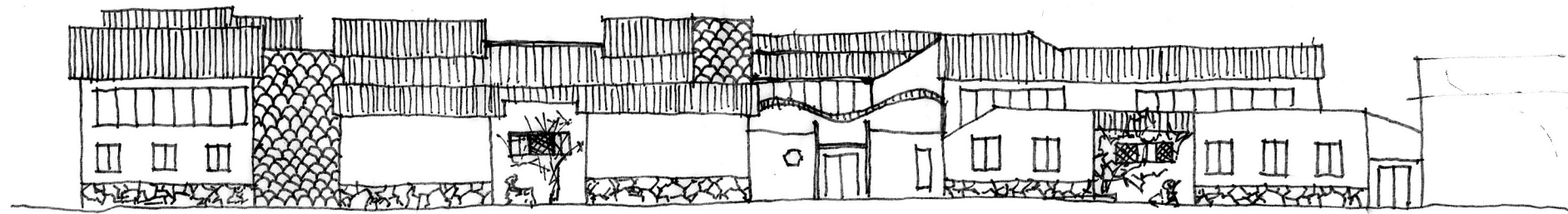


SIDE ELEVATION



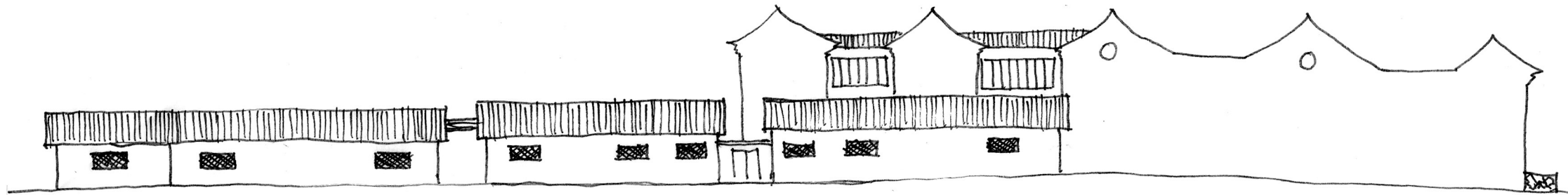
SECOND FLOOR PLAN & ELEVATIONS 1:500

SCALE: 0 5 15 35M



SOUTH ELEVATION 1:500

SCALE: 0 5 15 35M



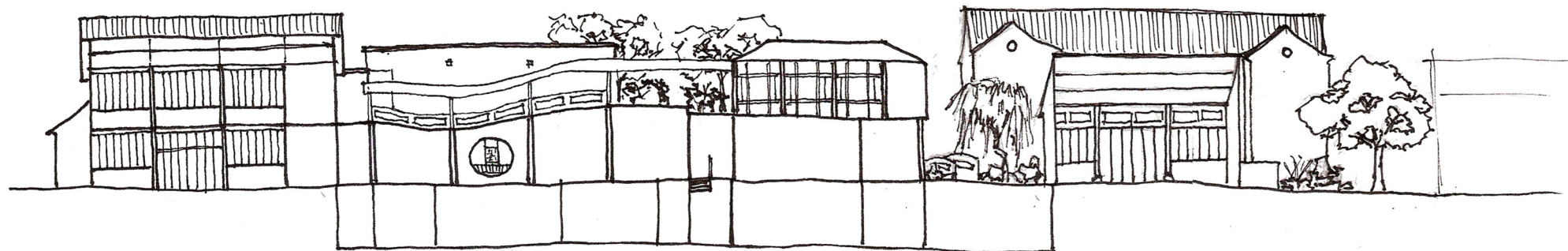
WEST ELEVATION 1:500

SCALE: 0 5 15 35M



SECTION A 1:500

SCALE: 0 5 15 35M



SECTION B 1:500

SCALE: 0 5 15 35M